

Development of Financial Markets in the Arab Countries, Iran and Turkey



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The Economic Research Forum for the Arab Countries, Iran and Turkey

The Economic Research Forum for the Arab Countries, Iran and Turkey is an independent, non-profit networking institution based in Cairo, which promotes and funds regional policy-relevant economic research. The ERF develops and coordinates research activities for a core constituency of Research Fellows primarily from the region, but also operating out of institutions elsewhere in the world. An important part of ERF's mandate is to also respond to the needs of the broad regional research community and to contribute towards capacity building in economic research. The ERF communicates the results of research activities to the research, policy-making and business communities through its publications. Its data bank and library services are open to the community of scholars.

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19 April 1995

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Preface

The papers and discussions gathered in this volume are the outcome of a workshop on financial market development held in Beirut in July 1994, the first such meeting to be organized by ERF. At this time, ERF had been operating for less than a year, resources were limited, and our offices in Cairo were still underequipped and understaffed. The decision was made nevertheless to proceed with the workshop, since research events such as this workshop lie at the heart of ERF's mandate.

With energetic support from ERF's core constituency of Research Fellows, the workshop was highly successful, as evidenced by the quality of the contributions to this volume. ERF is particularly grateful to the refereeing committee who worked long hours to screen and recommend papers, as well as to Mohamed El-Erian, from the IMF and an ERF Fellow, who accepted to write the introductory chapter and to begin almost at once to organize for a follow-up workshop in Abu Dhabi. The choice of Lebanon as host country was appropriate because of this country's historical role as a regional financial center. Nasser Saidi from the Central Bank of Lebanon and an ERF Fellow, is to be warmly thanked for his help in organizing the logistics in Lebanon, as is the Association des Banques du Liban for their hospitality.

I would like to take this opportunity to extend heartfelt thanks to those members of the ERF staff who - under difficult conditions - made the Beirut workshop possible. This volume has been entirely prepared in-house, the first such ERF product in what we hope will be a long and sustained effort to publish quality research work on topics of relevance to the countries of the ERF region.

Heba Handoussa
19 April 1995

1

Financial Market Development in the Middle East: The Main Issues

Mohamed El-Erian

Introduction

Middle Eastern economies are facing the challenge of mobilizing larger domestic and external resources in order to finance productive investments aimed at sustaining high economic growth and improving social sector performance. Accordingly, as is the case in many other developing countries, policy-makers are devoting more attention to improving the operation of domestic financial markets. The policy objectives include greater mobilization of domestic savings, larger inflows of non-debt-creating foreign capital, and the channeling of these resources to their most productive uses. In addition to reducing financial imbalances, the policy emphasis involves strengthening and broadening the institutional base, improving the functioning of market signals, and enhancing regulatory and supervisory regimes.

The workshop sponsored by the Economic Research Forum on financial market development, which was held in Beirut in July 1994, sought to contribute to policy deliberations on these issues. The papers discussed at this workshop, and presented in this conference volume along with discussants' comments, all started from a common premise: that an efficiently-operating domestic financial system is a critical component of efforts to achieve sustained improvement. Agreeing on the importance of sound macroeconomic conditions - the key aspect of the "enabling environment" - the papers sought to analyze the main elements affecting the operation of the financial sector, its role in the macroeconomy, and the policy implications.

For presentational purposes, the policy issues addressed in the papers may be organized under three categories: first, a review of systemic issues relating to financial market reform; second, an analysis of the status, role and outlook for specific market segments (particularly, securities trading); and third, aspects relating to selected financial instruments. In addition to discussing these policy matters, the workshop identified areas for future work. Proposals focused not only on the nature and scope of further analytical work but also on the

required background information.

The issue of financial sector reform

The five papers on the financial system (Chapters 2 through 6) provided insights into systemic issues affecting the process of financial intermediation. The papers focused on the institutional aspects of financial reform efforts, the challenges facing the sustained and timely implementation of such efforts, and the reaction of major market participants.

David Cobham's paper entitled *Financial Systems for Developing Countries, with Particular Reference to Egypt, Iraq, Jordan, Lebanon and Syria* reviewed the issues that need to be considered when assessing which of the polar models discussed in the literature - that is, bank-based versus market-based systems - is more appropriate. After reminding us that there is no *a priori* agreement on the general dominance of either system, the paper set forth a case for the superiority of the bank-based system in the specific circumstances of these five Middle Eastern countries. The policy implication was that rather than seek to improve financial efficiency by organizing financial markets, policy-makers should focus on upgrading their banking and other financial institutions.

This interesting paper triggered a lively discussion in the workshop. In general, participants' comments tended to add caution to the paper's main conclusion. Many issues were raised in this regard. These included the limitations of bank-based systems, the need for a detailed assessment of the scope in the region for cost-effective capital market reforms, and implications for linkages with external financial sources. Underlying much of the related discussion was a simple argument concerning policy formulation and implementation: rather than consider the systems as alternatives, financial sector reform efforts should view measures affecting the banking and capital markets as complementary. Accordingly, the policy emphasis should be placed on both markets - an issue that was picked up in the workshop's subsequent discussions on the role of equity markets.

The second paper, *Risk-Taking Behavior of Banks, Credit Rationing and Structural Adjustment* by Hasan Ersel, extended the discussion of financial reform programs to actual experience with liberalization efforts. Drawing on the author's direct involvement in the Turkish reform program, the paper pre-

sented a comprehensive analysis of the main challenges that confronted policy-makers. It argued that the combination of structural reform and liberalization adds a substantial amount of uncertainty to financial market activities. There is a significant risk that the reaction of banks to this increased uncertainty may result in undue credit rationing, thereby potentially undermining the ultimate objective of the reform effort, which is to provide adequate financing for productive private sector activities. The paper noted that the situation in Turkey was further complicated by large public sector borrowing requirements and concerns about policy reversals.

The paper's treatment of the policy implications found broad-based support in the workshop's discussions. Specifically, participants agreed on the importance of macroeconomic stability being accompanied by efforts to strengthen information flows - this, *inter alia*, as a means of avoiding undue and disruptive asset price instability. There was less agreement on the need to revisit issues relating to the pace, sequencing, and coverage of financial reforms and, in particular, market liberalization measures.

The third paper in this group focused on the extent to which Turkey's liberalization measures have enhanced the efficiency of banking operations. In *The Effects of Financial Liberalization on the Efficiency of Turkish Commercial Banks*, Osman Zaim investigated the impact of measures to remove barriers to entry and increase price competition in the banking system. His findings supported the view that the post-financial liberalization period in Turkey was associated with an improvement in the technical and allocative efficiency of the banking system. The workshop's deliberations centered on the robustness of the postulated causality links. Simply put, several participants noted that it was difficult to abstract from the ongoing and large-scale transformation in the economic and financial environment. Accordingly, they felt that there was a need for further analysis into other causal factors and associated welfare implications.

Several of the elements of financial sector reform were also featured in *The Experience of Iran's Islamic Financial System and its Prospects for Development*, by Heydar Pourian. This paper reviewed the implementation of Islamic banking practices and their impact on the macroeconomy. It argued for further progress in liberalizing financial markets in Iran. In discussing the paper, participants observed that a comprehensive analysis of Iran's experience under the Islamic financial system was complicated by the important

changes that took place in the economy in the period under consideration. These included the transformation into a peace economy after the termination of the war with Iraq, the subsequent efforts at structural reform and liberalization, and the range of adverse exogenous developments impacting the economy. This undermined the effectiveness of Dr. Pourian's paper, leading some to argue for a different analytical approach. More generally, with other studies in the area having established the validity and feasibility of the Islamic banking system, workshop participants stressed the need for further detailed work, especially as regards the enlargement of the set of Islamic financial instruments (including those at the short-end of the maturity range), strengthening the supporting institutional base, and empirically examining the experience of other countries in which Islamic banking systems have been in operation.

In *Le Financement Monétaire des Entreprises: Marché Financier ou Crédit Bancaire?*, Abderrafia El-Bakkali presented the case for greater policy emphasis on bank credit to the enterprise sector and the associated need for accommodative policies on the part of the Central Bank. The paper argued that, in conditions of limited retained earnings capacity, bank credit provided the main instrument for promoting private investment. Workshop participants noted the importance of taking into account macroeconomic implications when considering whether to assign credit policy the role of investment promotion. They also noted the need for additional analysis of the underlying reasons for the relatively low generation of retained earnings by the enterprise sector.

The issue of securities markets

The four papers having capital markets as their primary focus (Chapters 7 through 10) dealt with the status of these markets in the Middle East region (including comparisons with other "emerging markets"), their role in channeling resources to the corporate sector, and the policy implications.

The paper by Mohamed El-Erian and Manmohan Kumar entitled *Emerging Equity Markets in Middle Eastern Countries* contained an overview discussion of the role of equity markets in the macroeconomy of developing countries. Remarking that international equity flows are expected to remain an important element of external flows to developing countries, it noted the benefits and risks of equity market development and the implications for macro-

economic and financial policies. The paper provided a quantitative evaluation of markets in selected Middle Eastern countries focusing, inter alia, on price efficiency, concentration, capitalization, and price correlation with industrial country markets. It noted that, with the exception of two markets (Jordan and Turkey), equity markets remained relatively narrow. Nevertheless, there were clear prospects and need for effective market development.

The general narrowness of equity markets in the Middle East region was also a feature of *Gulf Capital Markets: Development Prospects and Constraints*, by Henry Azzam. The paper also considered the role of government and corporate securities' markets in the Gulf Cooperation Council (GCC) region. The paper discussed the policy steps being taken to remove the various barriers to market entry, pointing to the significant potential for market development at both domestic and regional levels. It noted the need for policy measures to broaden equity markets, including the development of the necessary legislative infrastructure and financial service expertise.

While the two papers differed in their treatment of the factors contributing to the general narrowness of markets in most Middle Eastern countries, there was broad agreement among participants on the prospects and policy implications. In this regard, they again stressed the importance of an enabling environment, the most important elements of which were a sound and stable macroeconomic framework and an adequate prudential regulation and supervision regime. Emphasis was also placed on the need to reduce barriers to entry into equity markets; improve information flows, credit rating mechanisms, as well as auditing and disclosure requirements; strengthen property rights rules; and enhance payments and settlement systems. Following up on the earlier discussion on the complementarity of bank and capital market reforms, participants noted the importance of coordination and harmonization.

There was recognition that the process of capital market development and deepening is not easy, nor is it guaranteed to succeed. Guven Sak's paper entitled *The Istanbul Stock Exchange and the Corporate Sector* highlighted an interesting and hitherto unexplained phenomenon. The paper's analysis suggested that while secondary market activity rose significantly in the Turkish market, this was not accompanied by an increase in primary issuance activity. Accordingly, Turkey's equity market has not fully met initial expectations regarding the channeling of resources to new investment activities by the

Turkish corporate sector. The paper provided a catalyst for the workshop's discussion on data sources - specifically, macro-based versus firm-based information. The deliberations pointed to the need for a reconciliation of Sak's findings (based on macro data) with those of other studies (based on sample data), including the recent work undertaken by the International Finance Corporation. Participants also noted the need to analyze the magnitude of other potential welfare-enhancing contributions of equity markets (including an enhanced disciplinary mechanism).

In *The Renaissance of Beirut's Financial Markets*, Nasser Saidi discussed capital market development taking into account three issues specific to Lebanon at this time: the aftermath of the country's internal conflict, its significant reconstruction needs, and Lebanon's regional links. The presentation noted that with the return of peace, Beirut was poised to regain its role as an important financial center. It reviewed the institutional steps being taken to this end - this in the context of the authorities' general policy stance aimed at broadening structural reforms and reducing domestic financial imbalances. In the subsequent discussion, questions were raised as to the rationale for a regional financial center, especially given the recent advances in technology and direct connections to industrial country markets. Linked to this discussion was the more general issue of the need for a careful evaluation of the economic case for developing equity markets in the smaller economies of the region. Participants noted the importance of balancing the benefits of local knowledge - and its beneficial impact in channeling funds to small- and medium-sized domestic corporations - with the costs (including overheads) of operating and supervising capital markets.

Selected aspects relating to financial instruments

The third theme of the workshop related to selected aspects of financial instruments. In this context, *A Model of Treasury Bill Auctions* by Ahmet Alkan analyzed the mechanism for Treasury bill auctioning using a game theoretic approach. The paper shed light on the following paradox: the theoretical literature's preference for uniform price auctions as compared to the practical preference for multi-price auctions. Alkan demonstrated that a multi-price sealed bid auction is more advantageous to the seller than a multi-unit auction. The workshop's discussion concerning this paper sought to analyze the implications of relaxing certain assumptions in the model and assessing the stability properties. It demonstrated the need for a cross-country analysis of the

operation of auction mechanisms for government securities. The paper also whet participants' appetite by pointing to potential extensions of the model to the analysis of privatization programs and the allocation of environmental property rights.

Looking forward

The papers contained in this volume should be considered in the context of the need to mobilize additional resources to finance productive investment opportunities in the Middle East - this with a view to exploiting the region's considerable economic potential. Not only do they involve analyses of key issues, but they also point to areas where further work is needed. Indeed, the volume offers considerable material both for further analytical work and for greater interaction between researchers and policy-makers.

As detailed above, several suggestions for future work emerged directly from discussions on individual papers. This was supplemented by issues that arose in the workshop's concluding session. Thus, participants stressed the need for disaggregate studies of financial market performance in mobilizing and allocating loanable funds from domestic, regional and international sources. Emphasis was placed on the two-way links between the macroeconomy and the financial sector, the interaction between the formal and informal market segments, and the role of Islamic financing and instruments. There were also references to the importance of assessing the soundness of financial markets and the implications of the domestic debt stock in certain countries. In the area of equity markets, the emphasis was on their contribution to enhancing enterprise efficiency, as well as the relationship with ongoing and envisaged privatization programs. An effective process of analysis and policy formulation and implementation requires comprehensive and timely information. Not surprisingly, therefore, workshop participants emphasized the importance of a sound financial statistics data base. Several participants also saw merit in compiling information on the types of financial instruments in use in the Middle East region and associated laws and regulations.

In closing, it is important to note the regional and international dimensions of the domestic policy issues discussed in this volume. Indeed, there is much talk about regional economic and financial integration and, more generally, the process of globalization of financial markets. As previous and current experiences in the region demonstrate (e.g. the GCC), and as confirmed by

developments in other regions (e.g. the European Union), the effective harmonization of financial sector policies has an important impact on welfare-enhancing regional activities. Timely and forceful progress in the development of domestic financial markets is also a key determinant of the ability of Middle Eastern economies to compete effectively in what has become an increasingly interdependent world economy.

2

Financial Systems for Developing Countries, with Particular Reference to Egypt, Iraq, Jordan, Lebanon and Syria

David Cobham

Introduction

After a long period in which financial arrangements in developing countries received relatively little attention from development economists or international financial institutions, the issue of the appropriate financial system for LDCs has returned to prominence. The World Bank (1989) in particular has argued strongly for the development of financial markets and institutions, including the establishment and promotion of securities markets along Western developed country lines, while economists such as Stiglitz (1989) and Collier and Mayer (1989) have put the emphasis on banks rather than securities markets. At the same time, the endogenous growth literature has revived interest in the relationship between financial intermediation and economic growth from a rather different perspective (see, for example, King and Levine 1993).

This paper focuses on the choice between 'bank-based' and 'market-based' financial systems, with special reference to some non-oil Middle Eastern countries. First, it identifies these two systems, discusses recent empirical work for the developed countries, and brings in the related distinction between universal and specialized banks. The paper then shows how the relationships concerned can be analyzed by reference first to the theory of financial intermediation and then, in addition, to the theory of agency costs and corporate governance. It discusses the choice between systems for the developed and developing countries respectively, and assembles the information that is available on the financial systems of the countries concerned. It then considers the choices which countries should make, referring also to the issue of international financial centers - a status to which at least two of the countries aspire - to see whether this aspiration might affect the preferred financial

system. Finally, the paper brings out the conclusions and sets out the areas in which further research is urgently needed.

Market-based and bank-based financial systems

Differences between the financial systems of developed countries in their periods of industrialization have long been recognized by economic historians, and some (e.g. Cameron et. al. 1967) have argued that German economic growth benefited considerably from the close involvement of German banks in the financing and managing of industrial companies, and/or that Japanese growth was facilitated by the existence of industrial-financial conglomerates (the *zaibatsu* and later *keiretsu*). The standard contrast is between the Anglo-Saxon "market-based" financial system in which securities markets are highly developed and banks are not closely involved in industry, and the German-Japanese 'bank-based' system in which securities markets are less developed and less important and banks are more closely involved with industrial firms.

A related distinction is commonly made between 'universal' banks, which provide a full range of services to their corporate customers in particular, and other more specialized banks whose activities are concentrated, for one reason or another, in a limited area. One of the first examples of a universal bank was the *Crédit Mobilier* in France in the mid-19th century, which used funds raised mainly from small savers via both shares and deposits to set up and promote companies in a range of industrial undertakings, from railways to steel-making. The *Crédit Mobilier* went bankrupt in 1867, but it served as a model for banks set up in the second half of the 19th century, notably in Germany and Austria, countries now thought of as the 'home' of universal banking. Some of the earlier universal banks did not raise funds from small depositors, but the collection of retail funds soon became the norm, although such transactions remained less important for them than for, say, British deposit banks. A defining characteristic of universal banks in this traditional sense was the holding of equity participations in nonfinancial companies; such banks can also be regarded as extreme versions of 'relationship banking', as opposed to the more arms' length 'transactions banking' commonly seen in Anglo-Saxon circles.

More recently, the term has been used to refer to banks which aim to combine retail/commercial and wholesale/investment activities, such as the large UK

clearing banks which purchased securities houses in the run up to London's "Big Bang" (1986). However, even apart from the loss of clarity through this recent extension of the term, the distinction between universal and more specialized banks is not coterminous with that between bank-based and market-based financial systems. Since the Second World War, Japanese banks have been legally prevented from undertaking universal operations (in a local application of the US Glass-Steagall Act), but this has had little effect on the financial system as such; historically, French banks have been less universal than UK banks, but the French financial system is closer to the bank-based model than the UK financial system.

The discussion has recently been revived by a series of contributions from Mayer (e.g. 1988, 1990), in which he has presented new empirical evidence on the overall contributions of internal finance and various forms of external finance to the nonfinancial corporate sectors of a number of developed countries. One key finding is that internal finance (from retentions of profits) is the most important source of finance in all the countries considered; a second is that securities markets do not provide large proportions of funds in any country; a third is that banks are the most important source of external finance in all countries. These findings tend to minimize the distinction previously perceived, but some significant differences between financial systems remain. In particular, on Mayer's figures the self-financing ratio is considerably higher for the UK and the US than for Japan, France and Italy, while Germany's position is an intermediate one. In addition, bank finance is markedly more important for Japan, France and Italy than for the other countries. More detailed work by Corbett and Jenkinson (1994) strengthens the finding that in terms of sources of finance for firms, Germany should be grouped with the UK and the US, as against Japan.

The differences in the financing of firms are commonly set alongside differences in relationships between banks and firms, which are conveniently summarized in Corbett and Mayer (1987): in Germany and Japan, but not in the UK and the US, banks typically hold significant amounts of corporate equity (either directly or, in the case of Germany, as proxies for personal shareholders); banks are also typically represented on firms' boards of directors and there are large and stable cross-shareholdings between companies. However, for Germany, this picture too has been qualified by Edwards and Fischer (1994) who show that it is only the big three German banks which operate in the way indicated and that bank finance in Germany is overwhelmingly debt

rather than equity. They also cast doubt on the importance of the role of banks in monitoring and controlling firms' managements.

It is clear that there is scope for more research in this area on the developed countries. In the first place there is a need for disaggregated studies which are more directly comparable to the aggregate data provided by Mayer (1990) and Corbett and Jenkinson (1994). Financial flows within the nonfinancial sector are netted out in the aggregate data, and this may explain why securities markets do not appear to act as a major channel of funds for the corporate sector as a whole. However, it is still possible that markets play an important role in allocating capital between firms.¹ In the second place, there is a need for more differentiation, for example to identify more clearly the characteristics of financial systems such as those of France and Italy, where banks appear to play an important role in the financing but a less important role in the control of firms.

Financial intermediation and corporate governance

How can the key findings identified above and the differences between financial systems be analyzed?² One obvious place to look for an answer is in the theory of financial intermediation, that is, in explanations of the existence of financial intermediaries (indirect finance) as opposed to securities markets (direct finance). Long-standing arguments in this area explain the existence of banks in terms of (a) their ability to reconcile the different preferences over liquidity and maturity of ultimate lenders (typically households) and ultimate borrowers (typically firms), and (b) their ability to exploit economies of scale in portfolio management and financial transactions. More recent work has viewed banks as mechanisms that compensate for the absence of secondary markets in claims issued by small firms and households: such markets do not exist because of economies of scale in transactions (the turnover of such claims would not be large enough to justify the costs involved in operating secondary markets), and because of the lack of public information on such

¹ Allen (1993) has provided a "defense" of stock markets as mechanisms which provide multiple "checking" of individual firms' plans in cases where there is no consensus on how firms should be operating.

² The intention here is not to give a survey of relevant papers, or to provide precise explanations for the details of the empirical findings; rather, the intention is to indicate the principal considerations and approaches that are relevant. Further discussion can be found in Mayer (1990, 1992) and Stiglitz (1989).

issuers (which would be costly to provide). Instead, banks specialize in gathering relevant information - on the location and creditworthiness of potential borrowers, on the likely success of their investment projects, and on the realized success of completed projects - as well as in providing finance. Because their information will nevertheless remain imperfect and because screening and monitoring are costly activities, it is most efficient for banks to lend in the form of standard debt contracts, in which the borrower either makes a fixed repayment (regardless of his profits) so long as he is solvent, or turns over all his assets to the bank if he is unable to pay. These loans are non-marketed and non-marketable.

This explanation for the existence of banks suggests that we should expect different forms of finance to coexist, with that for small firms and individuals being supplied mainly via banks, and that for large firms with more easily evaluated investment projects coming mainly through securities markets, and there is some evidence to support this prediction (see Mayer 1990, Table 12.10). However, such considerations provide no explanation for the key findings of Mayer and others listed above: also, in the absence of evidence of significant differences between developed countries in firm size, they do not account for the difference between developed countries in overall financial systems. Appeal needs to be made to principal-agent issues and signalling problems in addition to imperfect information.

In a world of perfect information it is clearly efficient for risk to be shared between agent and principal, e.g. between firm and financier or between manager and shareholder. However, in a world where information is imperfect and, in particular, where the principal cannot observe the actions of the agent either directly or indirectly (because the outcome is also affected by other random, non-observable factors), efficiency requires that the agent should face an incentive structure which gives him a higher share of the return to his effort; he must therefore bear a larger share of the risk. Debt contracts can be regarded as incentive structures of this sort (as well as mechanisms which reduce the need for monitoring by lenders), but with imperfect information credit is still likely to be rationed. Equity contracts, on the other hand, give more scope for managerial discretion, since shareholders will in principle bear some of the reduction in profits associated with managers pursuing their own objectives (in practice, dividend payments appear more stable than this would imply). In addition, unlike equity contracts, debt contracts can be of varying terms: shorter term contracts such as bank loans will keep managers under greater

pressure than longer term contracts such as bonds, but they may also encourage managers to concentrate on projects with shorter time horizons.

Imperfections in information can be countered by signals. For example, directors who purchase shares in their own firms may be signalling to the financial markets their own confidence in the firms based on their superior access to information. However, there are adverse signals associated with issues of both equity and bonds which discourage such issues (and therefore encourage reliance on indirect finance from financial intermediaries). Entrepreneurs who sell shares in their own businesses may be doing so because they know that the markets are overvaluing the business. Since markets cannot easily distinguish these cases from those of entrepreneurs seeking only to raise more funds for expansion, prices for new issues reflect the probability of the former being included with the latter, so that new issues become more expensive as a source of finance. Issues of bonds, on the other hand, may be taken as signals that firms, or their managers, want more funds but do not want to accept the monitoring which would accompany shorter term loans from banks; again, new issues turn out to be more expensive.

Considerations of incentives and signalling problems thus help to explain some of Mayer's key findings: debt finance improves incentives relative to equity finance and is therefore more attractive to financiers, while the adverse signals associated with new issues tend to make bank finance more attractive to firms; likewise, the problems associated with all external borrowing make internal financing preferable for firms. At this level of generality, however, it is not possible to say much about the reasons for the differences in financial systems. In the Anglo-Saxon countries, bank finance is less important, and with it, banks' control of firms; but the more developed security markets provide a market for corporate control which acts as a backstop discipline on managers. In Japan, bank finance and bank control of firms are both more important, while the less developed security markets function mainly as a mechanism for the exchange of marginal ownership claims. Other countries seem to lie somewhere in between these two models; in many of them a large amount of financial flows have passed, at least until recently, through banks or other institutions in the public sector. But the origins of the differences appear essentially historical.

The optimal financial system for developed countries

While it may be difficult to explain why different countries have different

financial systems, and while an individual country may not have a realistic possibility of switching from one system to another, it should still be possible to ask what sort of system is preferable. Here the crucial considerations are commitment and competition.

In a bank-based system it can be argued both that banks have superior information about their borrowers and that there is a stronger mutual commitment between the two sides (expressed by the banks' equity holdings and their representation on the board of directors), so that banks are more willing to lend for projects whose returns will accrue over a longer time horizon: a bank understands better the nature of the choices between projects facing the firm, and it knows that it has a secure position as lender to the firm and will therefore share in the higher profits that will accrue later as well as the smaller profits available in the interim. Thus, long-term investment projects are more likely to be financed, and overall economic growth should be enhanced. At the same time, the bank-based system typically generates greater commitment between the firm and other 'stakeholders' such as the firm's employees and its major suppliers because the more stable legal ownership of the firm means that these stakeholders are less exposed to sudden changes in policy on employment or purchasing which in effect renege on the firm's outstanding implicit contracts. This greater commitment means that these other stakeholders are more willing to make firm-specific investments of their own - in specific plant and equipment or in human capital - which strengthen the position of the firm. Again, overall economic growth should be enhanced in this context.

The firms in a bank-based system are therefore typically under "insider control." This has the further advantage that if the firm gets into difficulties as a result of poor management or a marked deterioration in the external environment, the stakeholders should be jointly able to intervene at an early stage to correct management deficiencies or share the burden of dealing with the adverse external factors. Corporate rescues, in other words, can be implemented speedily by the insiders themselves.

In the market-based financial system, on the other hand, those who finance the firm know that they have no secure position as its financiers, and that the firm may at any moment switch its custom elsewhere. They therefore have no incentive to concern themselves with anything other than the immediate

returns on their investments, and in any case they have no access to superior information about the alternatives open to the firm. In addition, the firm in a market-based system is typically under "outsider control" in the sense that the non-shareholding insiders (stakeholders) have little power or influence and the shareholders themselves are dispersed and unorganized. The stock market provides a backstop discipline on management and a mechanism for corporate rescues in the form of (threatened or actual) hostile takeovers in which a management team from outside the firm which believes it can improve the firm's profits tries to persuade existing shareholders to appoint it instead as the firm's managers. But this market for corporate control works only imperfectly because the transaction costs involved in organizing takeovers are large, so that existing management teams have to err substantially before they become vulnerable (on the assumption that potential takeover bidders are reasonably well-informed). Moreover, incumbent management teams often develop defensive barriers against takeovers which are related, for example, to size rather than superior performance. In this sense, the takeover threat does not encourage efficiency. However, non-shareholding stakeholders know that their relationship with the firm can be turned upside down by any new management team, and they are therefore discouraged from making firm-specific investments. Thus, the firm's access to long-term finance may be more difficult, it may have an incentive to opt for projects that yield larger short-term profits, and its suppliers and workforce may be less willing to make related investments from which the firm might benefit. In this scenario, overall investment and economic growth may be lower.

On the other hand, in a bank-based system a firm which has a single 'house bank' but no easy access to alternative sources of finance may be vulnerable to opportunistic pressure from the bank. Such pressure could have adverse effects on the development of the firm (though if it leads to financial instability rather than low profitability, the bank itself would be adversely affected). There is in fact some evidence that German, Swiss and Japanese firms have tried to move away from simple house bank relationships in recent years, presumably for this reason.³ At the same time, in a bank-based system the banks will have an incentive to consider the position of their various borrowers as a group, and therefore to coordinate their behavior so as to maximize overall profits. If the economy in which the system is operating is one where overall levels of competition are low, such coordination may lead to anti-competitive

³ Hellwig (1991:58).

practices whose effects on economic welfare may outweigh any possible gains from the superior commitment identified above. Hence, the choice between bank-based and market-based systems seems to depend on the balance in a particular case between the benefits of commitment and the costs of reduced competition.⁴

Separate consideration should also be given to the advantages of universal banks (in the traditional sense of the term).⁵ Such banks may be thought to benefit in their operations from superior acquisition of information on their corporate clients - which would enable them to provide loans with lower default rates and therefore at lower interest rates - and, more generally, from economies of scope, but empirical evidence to support the existence of such benefits is weak. On the other hand, universality in banking creates negative externalities insofar as banks' own financial stability may be threatened by difficulties among their industrial clients and vice-versa. Indeed, problems of this sort lay at the root of the decision to prohibit banks from holding equity in non-financial enterprises in France and Italy in the 1930s and 1940s. Finally, the danger of anti-competitive practices identified above is present with universal banks even in a non-bank-based overall system.

The optimal financial system for developing countries

Much less empirical research has been done on financial systems in developing than in developed countries. It is clear that no LDC has anything close to the Anglo-Saxon system, but it also seems likely that in most LDCs banks have looser ties to and less control over nonfinancial firms than in the Japanese case. As a first approximation, most LDC financial systems are probably somewhere near those of France and Italy.

However, there is one recent piece of research on corporate financial structures in LDCs by Singh and Hamid (1992). This is a disaggregated study of top firms listed on stock exchanges in India, South Korea, Jordan, Malaysia, Mexico, Pakistan, Thailand, Turkey, and Zimbabwe (with particular reference to the first two countries). Singh and Hamid investigate the sources of com-

⁴ No general historical statement can be made about the efficiency of the two systems, since we only have a small sample of countries and many other factors are involved. See also Edwards and Fischer (1994, chapters 1 and 3) for some recent material on growth, investment, and the financing of aggregate investment in Germany and the United Kingdom.

⁵ This paragraph draws on Steinherr and Huveneers (1992).

pany finance against the background of the bank-based versus market-based distinction and find that equity finance has been much more important for these firms than for firms in the industrialized countries, and much more important than previous work on LDCs had suggested.⁶ This is a surprising finding which clearly deserves further examination so as to check its robustness between countries and over time, and to see how it shows up in aggregate data of the kind used by Mayer. For the moment, however, it should be regarded as raising important questions rather than providing new answers.

On the choice for LDCs between financial systems, the first point to be made is that the level and flow of information is substantially more imperfect in LDCs than in developed countries as regards, for example, accounting and auditing procedures and the effectiveness of the financial press. In terms of the theory of financial intermediation, this means that a higher proportion of financial flows should be expected to pass through intermediaries rather than securities markets. In addition, the framework of legal and property rights - upon which the functioning of securities markets in particular is dependent - is in many cases both less clearly codified and less securely established than it might be. While some of these weaknesses can be corrected over time by regulatory action, efficient information networks require a development of civil society that cannot be engineered from outside.

Securities markets in LDCs also suffer from high transaction costs because they are too small to benefit from the economies of scale that characterize the major financial markets of the world. Roe and Popiel (1988: 40) refer to spreads between bid- and ask-prices of 10-15 percent in LDC stock markets. These are comparable, for example, to the spreads at the London Stock Exchange on 'less liquid stocks', which are widely regarded as too large to make transactions efficient or worthwhile. (Turnover in these stocks represents a very small percentage of total turnover). Overall, the market value of domestic equities listed on the London Stock Exchange (roughly the third largest in the world) at the end of 1992 was 5.8 times that on the Delhi market, 32-34 times that in Tel Aviv or Tehran, 263 times that in Amman, and 336 times that in Korea; comparable figures for turnover were 105, 23, 44, 235 and 2437, respectively. Part of this problem is simply a reflection of the fact that

⁶ See for example Fry (1988:288): "The 35 security markets that exist in the developing countries have generally played only very minor roles in domestic resource mobilization." See also Goldsmith (1969:357-60).

firms in LDCs tend to be on average much smaller than those in developed countries. However, it also reflects the prevalence of family-owned and/or closed companies.

Similar and perhaps stronger arguments about commitment can be applied to LDCs as to more developed economies. Indeed, in economies with a smaller number of firms, it may be more important for the stakes of non-shareholding stakeholders to be recognized in order to persuade suppliers to make specific investments. On the other hand, dangers from anti-competitive practices organized by banks within a bank-based system (or by universal banks more generally) may be larger, unless actual or potential competition can be ensured from abroad through the minimization of protective trade barriers.

At the same time it can be argued that in an economy where the stock of managerial resources is limited (and that limit is a key constraint on development), those resources should be concentrated in financial institutions whose role is to apply those management skills to the key decisions throughout the economy, and which therefore need to have an important element of control over the nonfinancial companies that they finance.⁷ The alternative mechanism of control - through stock market takeovers - is costly, but in any case it is difficult to envisage the emergence of an appropriate shareholder culture before economic and financial development has proceeded a great deal further. Finally, second-best arguments indicate that since other markets are incomplete and imperfect, there is no reason to believe that setting up securities markets where these were previously non-existent will necessarily bring the economy as a whole closer to a social welfare optimum.

These considerations suggest that, while it is difficult to establish a preference between financial systems for developed countries, for LDCs there must be a strong preference for bank-based rather than market-based systems.

Financial systems in Egypt, Iraq, Jordan, Lebanon, Syria

It is worth noting at the start that the existing level of research and even basic information about financial arrangements and institutions in these countries is extremely low, mainly it seems because economists have not turned their attention to these matters. For example, while Sayigh's (1978a) descriptive survey

⁷ See Mayer (1989) and Collier and Mayer (1989).

of the Arab economies includes some limited material on monetization and banks, his companion analysis of Arab development (1978b) includes no index entry for either banking or finance, and these are not even mentioned in his list of the economic determinants of development.

As an introduction to the financial systems in the above countries, it would be useful to present the values for these countries of the two key ratios which Goldsmith (1969) calculated: the financial interrelations ratio, which measures the relationship between a country's financial superstructure and its real infrastructure in the form of the ratio of all financial assets to national wealth; and the financial intermediation ratio, which measures the relative importance of direct and indirect financing through the proportion of debt and equity securities issued by nonfinancial domestic and foreign issuers which are held by domestic financial institutions. However, although Goldsmith (1969) presents some data for Egypt, he does not mention these ratios, and his later work (1985) does not cover any of the countries considered here. Nevertheless, some useful information can be obtained by looking at the ratios of money to GDP and at the shares of notes and coin as well as quasi-money in the overall money supply. In what follows, some comments are made on these ratios, and then some other descriptive material is presented for each of the countries in turn. Towards the end, an attempt will be made to characterize the financial system of each country. The intention here is to make strong statements which will give rise to debate, rather than statements so heavily qualified that they preclude criticism but fail to advance the discussion.

Figure 1 shows the ratios of broad money (money + quasi-money) to income (gross domestic product) from the early 1960s. At this period the four countries other than Lebanon were in much the same position. Over the next 30 years Jordan had a gradual but sustained process of financial deepening; Egypt experienced a spurt of deepening in the second half of the 1970s which enabled it to catch up with Jordan, but then fell behind again; Syria experienced rather less deepening, and Iraq had very little change up to 1976.

After this time, monetary data are no longer available. Lebanon, on the other hand, had already experienced greater financial deepening than the others by the

late 1960s, and in the late 1980s again had a much higher ratio than the others.⁸

Figure 1: M+QM/Y

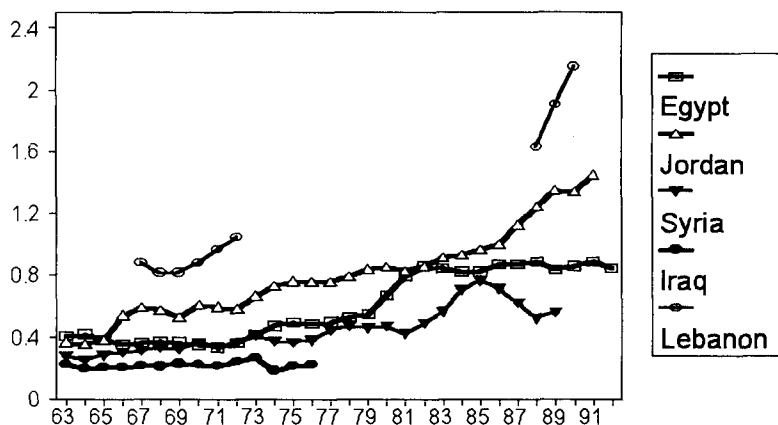


Figure 2 shows the ratio of currency held by the public to broad money. In the early 1960s this ratio was relatively high for all countries with the exception of Lebanon, and particularly so for Syria and Iraq. By the end of the period, currency had become less important (and bank deposits had become much more important) in Jordan and Egypt, but Syria and Iraq (in the years for which data are available) had experienced little change. Figure 3 shows quasi-money as a proportion of broad money (the third element of broad money is demand deposits). In Syria this ratio started and ended the period at a very low level, which indicates the underdevelopment of financial institutions; Iraq had a higher ratio which rose slightly in the years shown. Jordan and Egypt again had more substantial and sustained development, the former throughout and the latter mainly from the mid-1970s onwards. Lebanon had a higher ratio throughout: the figures for quasi-money include residents' foreign currency deposits, which were very large in the late 1980s as a result of the "dollarization" of the Lebanese economy.

⁸ All data are taken from the International Statistics Yearbook 1993, with the exception of Lebanon's income data (not available in IFS); the Lebanese income data for 1967-1972 were provided by Dr. Saad Andary, and those for 1988-1990 by Dr. Samir Makdissi on the basis of Makdissi et al. (1990) and later extrapolations. (These data are in US\$ and have been converted into Lebanese pounds at the average exchange rate for the year, line rf in IFS).

Figure 2: C/M+QM

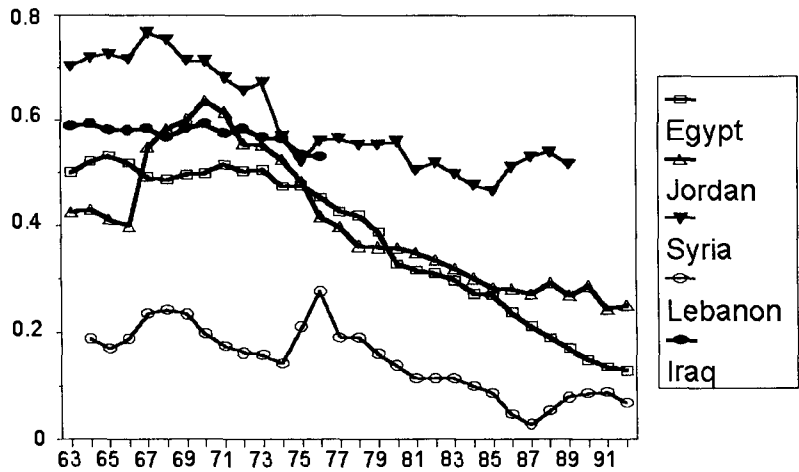
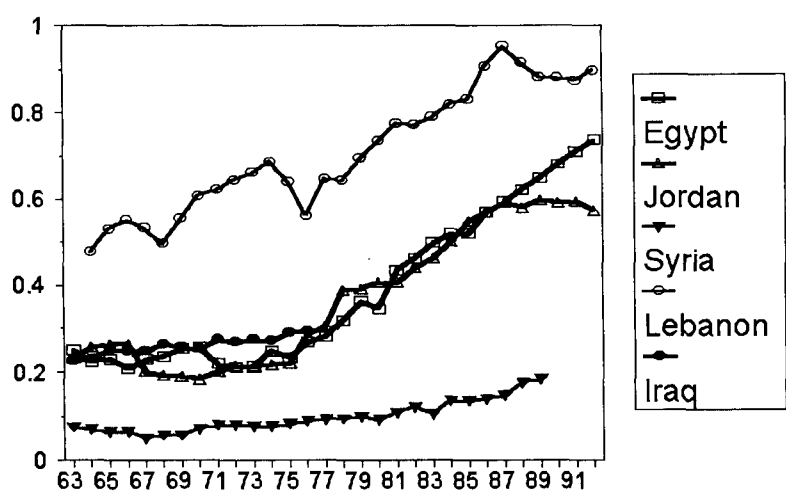


Figure 3: QM/M+QM



Egypt

Financial institutions and activity developed earlier in Egypt than in nearly all the other countries in the sample. Banking activity dates back to the entry of Western banks in the first half of the 19th century to service British and French

companies and individuals doing business in the country. Some foreign-owned Egyptian-based banks were established from the middle of the century but did not survive. The National Bank of Egypt, a privately-owned (mainly British) bank with some responsibilities typical of a central bank, was set up in 1898 on the initiative of Cromer; in 1957 it was nationalized and divided into two, with the Central Bank of Egypt carrying out normal central banking functions and the National Bank of Egypt operating as a conventional commercial bank.

Bank Misr, the other of the two main banks, had been founded by Talaat Harb in 1920 as a universal bank along the lines of the German model. It was committed to setting up new industrial enterprises in which it held equity participations and on whose boards it was represented, with a view to nurturing these companies until they could stand separately on their own. It appears to have overextended itself, either in absolute terms or given the opposition it provoked in the rest of the mainly foreign-controlled banking system, and Talaat Harb was forced to resign in 1939 as a result of a liquidity crisis, to be replaced by directors with a more conventional (and pro-British) outlook.⁹ However, the bank retained wide industrial connections, and its nationalization in 1960 was partly a way of bringing a large number of nonfinancial companies into the public sector.

The other two most important deposit banks were nationalized in 1961, with Barclays Bank becoming the Bank of Alexandria and *Crédit Lyonnais* (plus other French-owned operations) becoming the *Banque du Caire*. These four banks had all had fairly extensive branch networks; after the nationalization they continued their separate existences with certain (non-competing) specializations (e.g. Bank Misr in industrial finance), but were drawn into the state's economic planning and control mechanisms.¹⁰ These specializations were revoked in 1975, and the banks have come to compete more with each other and with the growing number of private banks, including some Islamic operations. The big four public sector banks appear to be more heavily involved in lending to industry than the new private sector banks.¹¹ It is not clear whether Bank Misr has retained any of its earlier tradition as a univer-

⁹ See Tignor (1984) for further discussion.

¹⁰ O'Brien (1966:182-3).

¹¹ Moore (1986:640-2).

sal bank. In any case, Egyptian banks hold very little equity.¹²

In addition to commercial banks, Egypt has a smaller sector of business and investment banks which lend mainly to the service sector, and specialized banks which lend mainly to agriculture. Other financial institutions include insurance companies and pension funds which lend heavily to the government and hold almost no equity. There is a stock exchange in Cairo and a smaller, related exchange in Alexandria. These date from the late 19th century, when their main business was in the shares of foreign-owned cotton and related enterprises; they have languished since the Suez War sequestrations and the nationalizations of the 1960s, but attempts to revive them have been under way since the mid-1970s.¹³ At the end of 1990 some 573 companies were listed on these exchanges, but turnover is small. Most large firms remain in the public sector, and many private firms are closed companies.

Egypt has thus had a relatively well-developed financial sector since before the Second World War, but one whose development has been strongly affected by the nationalization and state controls of the 1960s and since. Attempts were made to open up the sector in the 1970s and further measures of liberalization have been introduced in the 1980s,¹⁴ but success has so far been limited.

Iraq

The figures above show a relatively low level of financial development in Iraq, at least over the period up to 1976 for which data are available. The banking sector was nationalized in 1964, and all the commercial banks were combined in either the Rafidain Bank or the Commercial Bank. Information is difficult to obtain, but it seems reasonable to speculate that the banking sector operates essentially as part of the state apparatus of economic planning and control, much like the banking systems of Soviet-type economies. The latter performed little genuine role of financial intermediation, and certainly no role in the allocation of financial resources. Instead, they simply provided loans to enterprises where the planning apparatus required them to be made. It is now turning out to be extremely difficult to transform these institutions into

¹² National Bank of Egypt (1992a:19).

¹³ See National Bank of Egypt (1992a), Abdul-Hadi (1988), and Aly (1993).

¹⁴ See El Nil (1994), and National Bank of Egypt (1992b).

banks which can play such roles, partly because of the lack of relevant skills within the banks but partly also because these banks currently suffer from enormous problems of bad debts.¹⁵ There is no stock exchange in Iraq, and few nonbank financial institutions.

Jordan

Jordan¹⁶ is the most straightforward case of private sector financial development among the sample, with a pattern of gradual but sustained financial deepening shown in the preceding figures. It has a range of competing (and not too concentrated) private sector deposit banks, some specialized public sector credit institutions, and a small development of private sector nonbank financial institutions. One of its main banks, the Arab Bank, was founded in 1929 by a Palestinian who had worked in the United States and was therefore familiar with US banks. In the beginning, it specialized in lending to small businesses and professionals, but later it expanded throughout the Arab world and most of its activity is now devoted to collecting deposits in the Gulf for reinvestment in the money and other markets of London. The Arab Bank, and Jordanian banks more generally, are thus not heavily involved with nonfinancial companies: they hold little equity and are more like Anglo-Saxon than continental European banks. Another important activity is the repatriation of the remittances of migrant workers, especially from the Gulf.

Jordan also has a small stock exchange in Amman, established in 1976, on which about one hundred companies are listed (see also the figures above). Roe and Popiel (1988: 39-40) refer to it as "still shallow and inactive". The study by Singh and Hamid (1992: 81) found that the 35 largest quoted companies in Jordan "financed more than 50 percent of their growth from equity issues," but without more information on companies and industrial structure it is difficult to know how much weight to assign to these results.

Lebanon

Lebanon is an outstanding example of financial development of a very special kind as a regional financial center catering mainly to expatriate Arab funds. The previous figures indicate the extensive use of banks rather than cash from

¹⁵ See, for example, Begg and Portes (1993).

¹⁶ This paragraph draws partly on Wilson (1983, 1987) and the Central Bank of Jordan's 1992 Annual Report.

at least the early 1960s. If income figures had been available it seems fair to assume that Lebanon would show (in Figure 1) the highest level of financial deepening of the countries considered here. Lebanon's banking sector¹⁷ had been internationally oriented since at least 1948, when exchange controls were abolished and it experienced a major influx of Palestinian capital; at the same time Beirut became a major transit port in place of Haifa. Lebanon's strict laws on banking secrecy date from 1956; soon thereafter, political developments elsewhere in the Arab world generated a need for a safe banking haven which the Lebanese banking sector was able to satisfy. Beirut quickly developed as an important regional center, with large numbers of Arab and other foreign-owned banks setting up branches or representation there. Lebanese banking was dynamic and freewheeling, and it experienced its share of instability - notably the crash of the Intra Bank in 1966, which led to improved regulation with the implementation of the 1963 Code of Money and Credit. At the same time Lebanese commercial banks (there were no specialized banks of the kind found elsewhere, at least until the establishment of the Banque de l'Habitat in 1977) were apparently closely involved in medium- and long-term lending to domestic industry.¹⁸ The first oil price shock of 1973-74 encouraged a further but short-lived entry of foreign banks. The conflicts within Lebanon from 1975 onwards created major difficulties, but the banking sector has survived remarkably well in the circumstances. Indeed, it may even have increased its power and influence over the non-financial sector.¹⁹

There is a small stock exchange in Beirut, first established in 1920, which has been closed for periods since the late 1970s. Moore (1987) has emphasized the information problems which prevented the market from operating effectively, from insider dealing through to poor accounts and the predominance of closed companies. There are also large stocks of government bonds and Treasury-bills outstanding, though not as yet active secondary markets. However, attempts are currently being made to revive the exchange and to set up other, mostly short-term, capital markets.²⁰

¹⁷ See Ghazi (1987), Karam (1993/94) and Moore (1987).

¹⁸ Moore (1987:204).

¹⁹ I am grateful to Saad Andary for discussions on this point. See also Moore (1987).

²⁰ See Interview with Riad Salamieh, Governor of the Banque du Liban, in *The Banker*, November 1993.

Syria

The figures above reveal, if anything, an even lower level of financial development in Syria than in Iraq in the early 1960s, with only minor progress since then. The banking sector (which was Syrian rather than foreign-owned) was first nationalized in 1961 during the short-lived union with Egypt, then renationalized in 1964 when all the commercial banks were combined in one bank, the Commercial Bank of Syria. There are also a number of much smaller specialized banks. It is not clear if any of these banks hold nonfinancial equity. As with Iraq, it seems that the banking sector as a whole functions largely as part of the state planning process, rather than as an allocator of funds in its own right; in this respect, Syria's banking system must be close to those of the pre-reform Soviet bloc countries. There is no stock exchange, and few nonbank financial institutions.

Some comparative characterizations

There are a number of dimensions along which the financial systems of these countries can be measured. First, as regards the development of securities markets, it is clear that none of them has stock exchanges of a size and importance which could place them anywhere near the Anglo-Saxon market-based systems; they also lack active secondary markets in bonds and short-term government paper as well as markets in derivative products. Secondly, as regards the involvement of banks in industry, it seems clear that, while in Iraq and Syria the banks are largely conduits for official planning processes, in the other three countries the banks have varying amounts of involvement, mainly in the financing of industry and less commonly in its control. Thirdly, it should be noted that in Iraq and Syria, but to a considerable extent in Egypt and a much smaller extent in Jordan, the public sector itself has a role in the financial system through government-owned banks - commercial and/or specialist - and that the criteria for the allocation of financial resources are heavily influenced by the government. Lastly, no bank in any of these countries can be characterized as a universal bank along the lines of the traditional central European model, although Bank Misr was exactly that at some stage in the past and many banks today have some involvement in industry; in fact, no

bank appears to exercise the dominance and control that are the crucial attributes of a universal bank.²¹

How then should the existing financial systems be characterized? The financial institutions that exist in Iraq and Syria are undeveloped and essentially part of the state apparatus: they hardly constitute financial systems at all in the normal sense of the term. The Jordanian financial institutions and markets are somewhat more developed; they constitute a financial system in which banks provide the bulk of the finance but exercise relatively little control over nonfinancial enterprises, while some finance (but again no control, in the sense of an Anglo-Saxon-style market for corporate control) is also provided through the securities market. The system is nearer a bank-based than a market-based system, but above all it is a financial system that is subordinate, in the sense that individual banks are probably more concerned with allocating financial resources between the particular nonfinancial firms (largely family-owned rather than joint-stock companies) which are members of their groups, rather than allocating resources to the most productive investment opportunities throughout the economy. Egypt has a wider array of financial institutions with a longer history, but one that has been disrupted by major shifts in political power and accompanying policy measures, from British domination through Nasserite socialism to Sadat's open-door policies and Mubarak's hesitant liberalization efforts. The Egyptian financial system is also subordinate, but mostly to the state rather than to well-established private sector nonfinancial companies. If and when the role of the state is modified, there seems to be a reasonable possibility that the system will come to operate as a well-developed, mainly bank-based system. Finally, the Lebanese financial system appears internally to operate in a largely bank-based manner, but externally to emphasize transactions rather than relationship banking in a way reminiscent of financial centers elsewhere.

Financial systems and financial centers

On the basis of previous considerations and the empirical characteristics of

²¹ Some commentators (e.g. Roussillon, 1988) speculated that the Islamic investment institutions (*sharikat tawzif al-amwal*) in Egypt in the mid-1980s might have developed into major financial-industrial conglomerates, but later revelations of the way in which these institutions operated showed this to be fanciful. For a discussion of the unrealized potential of Islamic banks in this area, see Cobham (1993).

the financial systems discussed earlier, there seems to be little reason to argue that any of the countries with which this paper is concerned should devote the significant resources that would be required to building up a market-based rather than a bank-based financial system. This does not mean that stock exchanges should be closed down or discriminated against (e.g. fiscally), but it does mean that policy should be geared towards improving the functioning of the banks and in particular their ability to make well-based decisions about the allocation of financial resources between firms and between activities.²²

If banks are to be given more control, they must also be subjected to more competition. While this does not represent a problem in the case of Lebanon or Jordan, in Egypt the question must be raised as to whether more competition can be introduced without major changes in ownership. For Iraq and Syria, a major distancing of financial institutions from the state apparatus is the *sine qua non* for the success of any policy designed to improve the functioning of financial institutions. It cannot, of course, be assumed that a state planning process in which financial arrangements are entirely subordinate is necessarily inferior to a more market-driven economic mechanism, but at the very least it can be said that state planning in the Middle East and elsewhere has failed to live up to the hopes once held out for it. If state planning is to be replaced, the experience of Eastern Europe suggests that the process of rebuilding the financial sector should be started as early as possible.²³

If a country wanted to become an important international financial center, would this make any difference to the above conclusion? There is a considerable literature on why financial activity (in contrast to most industrial activity) tends to cluster.²⁴ The most important factors are the economies of scale and scope involved: the concentration of financial institutions in a single center leads to improved flows of information, higher liquidity and greater efficiency in organized markets; concentrations of related financial markets improve information, liquidity and efficiency in a similar way; and concen-

²² Moore (1987:207) for instance bemoans the emphasis of Lebanese banks on trust and friendship rather than professional credit analysis.

²³ See, for example, Begg and Portes (1993).

²⁴ See Davis (1990), Grilli (1989), Kindleberger (1974), and for a brief summary, Bonetti and Cobham (1992:18-21).

trations of financial institutions facilitate activities like credit syndication and security issuance that require the joint action of a number of different sorts of financial firms. Moreover, such economies are dynamic, that is, concentration in one place attracts more institutions to the same location, as "liquidity attracts liquidity". This means that the growth of financial centers can become self-perpetuating. Most of this literature refers to the main existing centers such as London and New York, where there are wide arrays of securities and derivatives markets, but the basic idea of economies of scale also applies to centers such as Switzerland, where the emphasis is on a certain form of banking, namely private banking. For both cases the key conclusion to come out of the literature is that well-established centers are likely to retain their prominence, and it is very difficult for a new center to get off the ground: Paris and Frankfurt, for example, would both like to challenge London's position as an international financial center but are unlikely to succeed.

Egypt has had aspirations to becoming a major regional financial center since the beginning of the open-door policy, and Lebanon aspires to reestablish its previous position as a regional center. Lebanon's position was more like that of Switzerland than that of London because it was based in part on banking secrecy, and this factor may continue to operate in its favor. In other respects, though, it seems unlikely that the previous position can be restored: producers and consumers of financial services alike have learned to operate through other centers (notably London, but also Paris), and once they have made the investments required to access the much more efficient markets of Europe they will continue to carry out both standard and many non-standard transactions there. Apart from secrecy, the only attractions Beirut can offer are expert information and, perhaps, the large number of skilled nationals currently working in financial centers abroad but likely to return to Lebanon. However, Lebanon's position will be hard to build up again after so many years of turmoil. On the other hand, it is clear that the aspiration to become a center of that kind provides no reason for preferring a market-based to a bank-based financial system.

Egypt, on the other hand, apparently aspires to a more widely-grounded position as an international financial center with a range of organized securities markets.²⁵ The fulfillment of such an aspiration would be facilitated if Egypt's domestic financial system were more market-based and less bank-based than

²⁵ See National Bank of Egypt (1991).

it is at present. However, the costs of shifting the internal system in that direction would be substantial, and the prospects for success in establishing Egypt as such a center seem remote: regional investors are already well served elsewhere; the time zone is not sufficiently different from the European centers; there are no well-established spot securities markets anywhere in the region whose products could become the underlying instruments for derivatives markets; and so on. Thus, it does not seem sensible for Egypt to pursue a different sort of financial system for such a reason.

An agenda for future research

The central conclusion of this paper is that the countries considered should be looking to improve the financial efficiency of their economies not primarily by developing organized financial markets, but rather by upgrading their banking and other financial institutions.

However, the preparation of the paper has revealed a large number of gaps in knowledge which future research could address. First, we need to know more about overall financial flows: at the aggregate level, how much of nonfinancial firms' finance needs are provided through internal and the various forms of external finance? Secondly, we need to be able to relate that aggregate information to more detailed data on corporate financial structures: namely, what forms of finance do different sorts and sizes of firms use? Thirdly, we need to know more about the relationships of finance, information and control between banks and nonfinancial firms across countries, types of bank, and types of firm.

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Comments

Marcel Cassard

This paper addresses the important issue of what should be the optimal financial structure in Egypt, Iraq, Jordan, Lebanon, and Syria, now that many of the countries in the Middle East have embarked on a financial liberalization process. This particular topic has received a great deal of attention in recent years. So far, no consensus has been achieved on what the optimal banking structure should consist of in industrialized economies, let alone in developing countries. The poor performance of specialized banks in the United States can easily be compared to the difficulties of universal banks in Japan and the Scandinavian countries. Since the debate will probably not be settled at this point in time, the following comments will approach the issue from a different angle.

The conclusion of the paper is quite fitting in suggesting that developing countries should improve the financial efficiency of their economies by upgrading their banking system. Contrary to the implication of the paper, however, this should not preclude the development of financial markets after reform of the banking system has occurred.

In my view the development of a strong banking system is a prerequisite rather than an alternative to the development of financial markets. First and foremost, the existence of a sound banking sector lies at the heart of an efficient capital market because securities markets depend heavily on the extension of bank credit for liquidity purposes. Secondly, the access of banks to "good funds" from the Central Bank provides the liquidity that maintains confidence in the payment system. Indeed, the creation of securities and equities markets with a weak banking sector would inevitably create systemic problems. In that sense, banking reform seems crucial.

One can observe that, in many Arab countries, banks are not sufficiently capitalized; in addition, they tend to have a large stock of non-performing loans as well as a high concentration of loans both to single groups and to single sectors. In such an environment, financial reform should begin with the restructuring and privatization of the banking sector; the development of capital markets should then follow the banking reform. When one analyzes the

trend over the last decade in industrialized countries, and over the last three years in developing countries, it becomes clear that a process of disintermediation has occurred. Bond and equities markets represent an increasingly important source of external finance for developing countries. Also, the development of government securities markets is important for countries with large budget deficits and for absorbing the sale of privatized public enterprises. Similarly, the development of money markets is important in providing liquidity to the system as well as in facilitating the conduct of monetary policy. As such, one would expect Middle Eastern countries to be willing to tap this new source of financing. This willingness can already be seen in such countries as Jordan and Turkey, where about 50 percent of corporate financing has been raised from equity.

Turning to the issue of universal versus narrow commercial banks, the paper appears overly positive vis-a-vis universal banks as a model for banks in developing countries. As long as banks remain inadequately supervised and insufficiently well capitalized, the safest policy would be to prevent their expansion into other financial activities. On the one hand, banks face additional sources of risks when they participate in capital markets: these include liquidity risks, trading risks, and settlement risks which banks are not always equipped to manage. Moreover, a conflict of interests would tend to prevail with such a structure. On the other hand, it is generally more difficult for prudential authorities to supervise universal banks than the narrower commercial banks. When the right regulatory and supervisory infrastructure has been established and banks have been restructured, it may then be possible to broaden their activities. Another factor in the choice between universal and specialized banks is that universal banking may lead to excessive cartelization of the financial sector as well as to the underdevelopment of capital markets.

The author needs to tighten the link between the two types of financial system introduced in the beginning of the paper and the following section, which depicts the current financial structure of the five Arab countries under consideration. It is difficult to understand why the current financial structure of those five Arab countries argues in favor of a bank-based rather than a market-based system. The evidence presented in the paper shows that these countries need to privatize or restructure their banks in order to make them more competitive, but does not present a convincing argument as to why these countries should adopt a bank-based rather than a market-based structure. Also, the choice of Syria and Iraq seems surprising in view of the precarious-

ness of their financial systems; Turkey and Bahrain would have been better cases.

Further, it would be fitting to recall that many countries in Asia and Latin America had a similar banking structure in the early 1980s. Over the last decade, however, some of these countries have liberalized their economies, modernized their financial infrastructure, and reformed their banking system. As a result, some were successful in developing capital markets, such as the corporate bond market in Chile, the money market in Mexico, and many equity markets in Asia and Latin America. There is no reason to believe that Arab countries could not follow a similar pattern of development.

Finally, one of the implications of the paper is that it will be difficult or perhaps unnecessary to develop a financial center in the Middle East. In this regard, it would do us well to remember that the sheer size of the region coupled with its huge pool of resources requires a regional financial center to cater to local investors, as regional centers do in Asia. In addition, small and medium-size firms are unlikely to tap into the capital markets of the large financial centers, whereas they are likely to get financing from regional centers. To be sure, these centers would not be in a position to compete with London or Tokyo, but they would still have an important regional role. Also, it is incorrect to point to the difficulties of Paris or Frankfurt in displacing London as an argument against the development of a financial center. At present there is no regional financial center in the Middle East, so the issue revolves around creating one rather than displacing another. Hence, the cost of developing a financial center - laying a financial, legal, regulatory and supervisory infrastructure - would not be as high.

Today the underdevelopment of financial centers and markets in the Arab world reflects macroeconomic imbalances, political instability, inadequate regulations and practices, and the dominant role of the public sector in economic activity. These problems have begun to be tackled, so that some progress may be expected in the future. Moreover, as the peace process forges ahead, and as local economies open up and modernize their financial infrastructure, there is reason to believe that some financial centers will eventually emerge in the region.

Samir Makdisi

The author presents two main themes in his paper. The first concerns market-based versus bank-based financial systems as well as the conditions that create a preference for one over the other. Subsequently, the optimal financial system is discussed. In addition, the German and Japanese models are contrasted with those of the United Kingdom and the United States. According to the author, two factors - commitment and competition - are crucial in determining the type of system to be developed. In connection with these issues, two remarks or queries seem warranted:

(i) The first query is quite specific. In a world of imperfect competition, the author needs to elaborate on the question of signals - that is, adverse signals associated with the issuance of new securities. Further, he needs to explain whether or not this has been a common historical experience which tended to shift focus to bank-financed systems and/or internal financing.

(ii) The second query is more general. The author observes that in a bank-based system, banks have superior information about borrowers, and that there is stronger mutual commitment between the two sides and hence better prospects for longer-term financing and economic growth. In a market-based system, access to long-term financing is more difficult. As a result, firms may opt for shorter-term projects, overall investment decreases, and so does economic growth. The choice between the two systems in a particular case depends on the balance between the benefits of commitment and the costs of reduced competition. In light of the foregoing comments, what conclusion does the author reach as far as developed countries are concerned? Has investment and growth been less significant in market-based financial systems than in bank-based ones? Does the experience of developed countries provide useful lessons to developing countries?

The second main theme relates to the optimal system for developing countries in general, with particular reference to five Arab countries: Egypt, Iraq, Jordan, Lebanon, and Syria. The general conclusion is that developing countries have a stronger case for bank-based rather than market-based financial systems. The low level of information, imperfections in the market, and the low stock of managerial resources, among other factors, point in favor of this conclusion. In this regard, three remarks need to be made:

(i) It is true that the financial ratios for Lebanon are very high. National income estimates for recent years are available, and they corroborate this conclusion.

(ii) With regard to Jordan and Egypt, the author should elaborate on his observation that the financial system in Jordan is subordinated to non-financial firms, and in Egypt, to the state. How does this situation contrast with bank-based systems in Germany and Japan? Can we say that in these two countries, subordination is in reverse order, so that banks actually control industry? How does the concept of subordination apply to developed countries?

(iii) Finally, in referring to Beirut's prospects as a financial center, the author states that, apart from the bank secrecy law, the only attraction exerted by Beirut is expert information. But in this case, no reason would exist for preferring a market-based financial system to a bank-based one. Once again, the author needs to elaborate further on this point. Indeed, as regards Egypt, he concludes that the system should become more market and less bank-based if Cairo is to become a financial center.

How can these observations be reconciled with the general conclusion of the paper, namely that the Arab countries under consideration should concentrate on improving the financial efficiency of their economies by upgrading their banking and other financial institutions and not by developing organized financial markets?

3

Risk-Taking Behavior of Banks, Credit Rationing and Structural Adjustment

Hasan Ersel

Introduction

During the last decade many countries embarked on structural change-cum-liberalization programs so as to enhance the performance of their economies. A closer look at these experiences shows that the results were less satisfactory than originally expected. In other words, the positive effects of these reforms on the real side of the economy were observed to have only partially materialized.

Recent studies on such reform experiences, even though they paid attention to country-specific factors such as the sociological structure of the country in question and its pre-reform history, emphasized two major issues which have significant bearing upon the success of the reforms. The first issue is the role of the state during the reform process and its governance capacity. The experience of reforming countries in the 1980s indicates that when the state achieves relative independence (that is, when government is not captured by one or a coalition of social groups) and is thus able to exercise its governance capacity during the reform as well as in its aftermath, the probability of successful transition increases.¹

The second issue which this paper deals with is the role of the financial sector during the reform process. Structural adjustment-cum-liberalization programs aim at expanding the allocative role of markets at the expense of administrative decisions made by the government. Such policies place the financial sector at the core of the economy and expect it to function in a way as to allocate resources efficiently in order to promote - and sustain - the growth of the real sector. To be sure, the success of the reform depends very

¹ For a thorough analysis of the role of the state during the reform process, see Fritschak (1993), which was prepared as a theoretical background paper for a very interesting research project at the World Bank on this issue.

much on both the financial sector's ability to assume this role and its speed of adjustment.²

The purpose of this paper is to point out that the success of liberalization policies, albeit paradoxical at first sight, is highly positively correlated with government behavior in the economic sphere. In other words, contrary to the accepted rhetoric, financial liberalization can enhance social welfare, not if the government completely refrains from intervening in the working of the market mechanism, but rather if it makes proper policy decisions in order to enable the financial system to carry out its much-increased role under the new conditions. Within this framework, the problem of uncertainty is the major issue to which government contribution is most needed, and it should therefore be examined more thoroughly.

First, the paper discusses the basis for government intervention, that is, the uncertainty-augmenting effects of structural adjustment-cum-liberalization programs, as well as the fundamentals of credit rationing theory. The paper then examines, within a simple framework, the effect of economic policies followed by governments on the credit-rationing behavior of banks. The concluding section of the paper is devoted to a re-examination of the role of government during the economic reform process.

Structural adjustment, financial liberalization and uncertainty

Early proponents of liberalization programs advocated the removal of interest rate ceilings and similar constraints on the financial system so as to enable it to operate freely and exploit the advantages of the market system with a view to enhancing efficiency in resource allocation. Such a move was considered, at least in theory, a transition from an imperfect allocation mechanism towards a perfect one. However, the experience accumulated over the last decade does not fully confirm the predictions of these early advocates. The subsequent performance of the real sector of the economy in some countries has been weaker than expected.

Such developments led to a new line of thought in the analysis of economic

² The role of the financial system and the effect of the liberalization policies drew the attention of many researchers towards the end of the 1980s. Some of the findings of these early studies are reflected in World Bank (1989), which surveys these issues with a mildly critical tone. For a comprehensive survey of the problems related to financial liberalization, see Akyuz (1993).

reforms. This took a less optimistic but more realistic view as the starting point by abandoning the assumption that liberalization programs will lead to an optimal resource allocation system. Instead, it explicitly introduced the concept of transition from one imperfect allocation mechanism to another and began to question the relative merits of the latter.³ This approach broadens the discussion of economic reforms on two issues. The first issue is the desirability of reforms. Once the imperfect nature of the outcome is acknowledged, the research agenda is broadened to compare the merits and weaknesses of the existing and targeted states. It should be noted that by dropping a research program which seeks to reach a state of bliss for society as a whole, the problem becomes more complicated since it requires the social evaluation of alternative solutions. This also brings in the second issue, which is the need to identify proper economic policies so as to minimize the social costs of transition.

Structural adjustment-cum-liberalization programs aim at decentralizing economic decisions by strengthening the role of the market mechanism. Therefore, they rely on individual decision-makers' ability to make proper decisions. However, by simultaneously removing interest rate ceilings and allowing prices to be determined by market forces, these programs also exacerbate the volatility of many economic variables and thus increase the uncertainty perceived by economic agents. In other words, the proponents of such reform programs seem to assume implicitly that, under uncertainty, the performance of market-based systems which rely on the decisions of individual decision-makers is superior to that of the administrative allocative mechanisms when it comes to increasing social welfare. Unfortunately, this assumption is neither self-evident nor valid in general. In fact, by referring to the fundamental non-decentralizability theorem proved in Greenwald and Stiglitz (1986) one can argue the opposite, that is, market allocations can be improved in general through proper government interventions.⁴

The preceding arguments indicate the need for the explicit introduction of uncertainty into the picture when evaluating the desirability of economic

³ As an example of such an approach to economic problems, see Caprio Jr. et.al. (1994).

⁴ The fundamental non-decentralization theorem states that whenever the information is endogenous or markets are incomplete - that is, in almost all conceivable states - competitive allocations are not constrained Pareto efficient.

reforms aimed at establishing a market-based allocation system. For this purpose, in the remainder of this section a conceptual decomposition of the uncertainty-augmenting effects of such reforms will be attempted. The goal is to identify the source and nature of the uncertainties tied to such reforms as well as discuss their effects on the behavior of economic decision-making units.

The first source, which may be called the structural adjustment effect, refers to the increase in uncertainty due to changes in the economic structure. When reform programs are implemented, many of the parameters which characterized the economic system change. For example, most structural adjustment programs change the pattern of production since they aim at modifying the growth strategy of the country in question. In many cases, growth strategies were shifted from "inward-looking industrialization under protection" to "export-led growth under competition". The implied shift in the production pattern of the economy will inevitably change the behavior of economic agents as well as the set of economic information on which their decisions are based. However, such a radical change in the economic environment decreases or even nullifies the information capital⁵ of economic agents, particularly banks, since historical data has little - if any - relevance in making economic decisions. The decline in information capital implies that banks will find themselves less capable of evaluating projects and choosing the ones with the best return-risk properties. This behavior will adversely affect the credit supply of banks and may hinder the growth of the real sector.

Another source of uncertainty which is closely related to the reforms can be referred to as the liberalization effect, which stems from the modified role of the state during and particularly after the transformation. In all reforming countries, the transformation is towards a system in which risks are individualized.⁶ This simply means that the reforms also aim at stripping government of its general insurance agency role. This, by definition, will increase the

⁵ Caprio Jr. (1992) developed an analytical framework that focuses on the concept of information capital in explaining bank behavior during structural adjustment. See also Caprio Jr. (1994) for an exposition of his conclusions.

⁶ For the former socialist countries the starting point may be identified as the one in which "both profits and risks are socialized". This system, at least conceptually, is more consistent than the protective economies, where profits are private but risks are socialized. However, for the purpose of this paper, the nature of the existing system is of secondary importance.

risks perceived by economic agents, even if total risk remains unchanged.

These two effects differ from each other both in their duration and in the way they influence the behavior of economic agents. The structural adjustment effect is felt most severely during the transition period, but it may be reduced by increasing the information capital available to economic agents, particularly banks. On the other hand, the liberalization effect is more durable and requires all agents, and again particularly banks, to be ready to assume risks and act accordingly. However, the findings of economic theory clearly demonstrate once again that under uncertainty the behavior of economic agents, particularly banks, may indeed hamper the expected positive effects of the reforms on the performance of the economy. This problem is particularly important in the case of banks since their behavior under uncertainty leads to what is known in economic theory as credit rationing.

Credit rationing

One of the problems detected in those economies which launched economic reforms is the continuation or even worsening of the finance constraint affecting the corporate sector. This result stands in sharp contrast to the expectations of the proponents of these reforms. The liberalization measures were expected to increase savings as well as enhance the ability of the economic system to allocate them to projects with the highest social returns. Since savings depend on many economic and social factors, it is simply a mistake to expect the savings rate of an economy to increase in response to the freeing of interest rates.⁷ However, it can still be argued that the development of financial markets may indeed induce a shift in the composition of savings towards financial savings.⁸ The second issue revolves around another theoretical problem, namely the theory of credit rationing. This refers to whether the financial system, or banks, for almost all practical concerns, are able to seek out those projects with the highest social returns and whether they are willing to extend loans to such projects.

Credit rationing, as defined in Ghandhi (1987), is the case in which the risk-

⁷ Akyuz (1993: 24-27) lists the factors which can adversely affect the rise in the savings rate in reforming economies.

⁸ For a lucid discussion of the need for distinguishing between savings in general and financial savings, as well as the implications for the development of financial markets, see Ghandhi (1987: 6-7), and Jaffee and Stiglitz (1990: 839).

return tradeoff is truncated, so that financial institutions decline to accept a higher amount of risk regardless of the yield offered. In practical terms, this means that "... some borrowers are denied credit even though they are willing to pay the market interest rate (or more), while apparently similar borrowers do obtain credit."⁹ This problem was first detected by Keynes in his discussion of "unsatisfied fringe borrowers" in his *Treatise on Money* (1930). Over the last decade and a half, many researchers have dealt with this problem and have developed models based on the optimizing behavior of financial agents.¹⁰ The basic finding of credit rationing theory is that banks may not increase the interest rate they charge even if there is excess demand for funds for fear that such an action might reduce their expected rate of return, either by reducing the portion of low-risk borrowers or by inducing borrowers to undertake riskier projects. Instead, banks choose to curb their credit supply, and thus a portion of the borrowers remain unsatisfied. However, unlike uncertainty, credit rationing in this sense is not a universal phenomenon. In Stiglitz and Weiss (1992) three conditions are presented under which credit rationing may occur:

- "1) There must be some residual uncertainty (information imperfection) after lenders employ whatever means they have at their disposal to differentiate among applicants and control their behavior;
- 2) The adverse selection/adverse incentive effects of changing interest rates or the non-price terms of contract (collateral, equity, etc.) must be sufficiently strong (at some values of the relevant variables) that it is not optimal for the lender to use the instruments fully to allocate credit;
- 3) The supply of funds must be such that at the Walrasian equilibrium (where demand equals supply, taking into account the use of non-price instruments), the expected returns to the lender are lower than for some other contract, at which point there exists credit rationing."

Hence, in order to consider credit rationing a major factor that impedes growth in the real sector, one needs to demonstrate that these three conditions are satisfied. Clearly, the first condition holds in general; therefore, what is needed is the validity of the remaining two conditions. In the following sec-

⁹ Jaffee and Stiglitz (1990: 839).

¹⁰ For a comprehensive survey of credit rationing, see Jaffee and Stiglitz (1990).

tion, the effects of government behavior on credit rationing will be discussed in a simple framework and by using the experience of Turkey over the last decade as an example.

Government behavior and credit supply

The adverse effects of credit rationing are not, as the proponents of financial liberalization evidently believe, a logical possibility observed almost nowhere, nor are they inevitable. Both beliefs lead to inaction on the part of governments. Instead, one should ask whether or not there are policy measures that governments can take to influence the behavior of banks so as to curb the tendency for credit rationing. To this end, the effects of government behavior on bank lending decisions are analyzed in a simple framework. The analysis is restricted to two out of many conceivable policy decisions made by the government, namely "high public sector deficits during financial liberalization" and "reversals in policy decisions". These two types of government behavior are rather common in countries which launched structural adjustment-cum-liberalization programs in the 1980s. Although the direct adverse effects of these "policy mistakes" are well documented, the purpose of dealing with them in this paper is simply to emphasize their indirect effects in exacerbating the credit-rationing behavior of banks.¹¹

In order to achieve this goal, suppose that in an economy there is one riskless asset (say, government bonds) and many risky loans whose returns are multivariate normal with finite variances. Therefore, demand for risky loans can

¹¹ In his comment on this paper, Dr Abou-Ezze emphasized two factors that may diminish the significance of credit rationing under the above circumstances. The first factor refers to government behavior and calls for careful implementation of liberalization-cum-structural adjustment programs. The second is the existence of "informal credit markets" in developing countries. Dr Abou-Ezze argues that "Credit rationing may not be very significant in an economy liberalizing its financial markets while remaining at the early stages of development. Informal markets meet the credit needs of most enterprises that are largely family-owned". This point is quite important since in such countries the segmented nature of credit markets acts as an impediment for financial development and, by definition, reduces the speed and magnitude of the spread of macro shocks in the economy. This may indeed be one of the factors behind the resiliency of business enterprises in such countries during periods of crisis. However, it should also be pointed out that the behavior of lenders in informal credit markets is neither exogenous nor invariant. Bell (1990) analyzed the interactions between institutional and informal credit agencies in rural India and explored the ways in which government policies influenced the behavior of the latter type of agents. Finally, recent studies on rural credit markets indicate that lending behavior in such markets can be accurately explained by referring to the "imperfect information" approach. On this point, see Hoff and Stiglitz (1990).

be defined over the mean and variance of portfolio returns. Assume also that banks are risk averse, which under the previous assumptions will imply that the indifference curves of banks - defined as a relation between expected return and risk - are convex. The locus of the minimum variance portfolios that have the same expected utility is called the loan return frontier.¹² Finally, assume that banks have no special information about their borrowers and are therefore unable to distinguish among them, and as the contractual rate of interest charged increases, the quality of the borrower pool falls. Using the above analytical concepts, the effect of government policies on bank behavior can be examined:

High public sector deficits and credit crunch

The effect of high public sector deficits can be analyzed by referring to Figure 1, which is drawn by using the above assumptions. Before the liberalization measures became effective, suppose that the government was able to borrow from banks at the repressed rate of interest r_1^* . This means that banks were in equilibrium at (r_1^*, σ_1^*) and allocated a certain portion of their resources, $\lambda^1 = \frac{\sigma_1^*}{\sigma_1}$ to the corporate sector as loans.¹³ Suppose that, while liberalizing the financial sector, the government declined to reduce public sector deficits. Under the *ceteris paribus* assumption, as can be seen from Figure 1, this may cause banks to curb their credit to the corporate sector. (The figure is drawn to demonstrate the case of $\lambda^2 < \lambda^1$). The removal of interest rate ceilings will increase the return from government securities. Hence, banks will allocate more of their resources to the public sector, which may lead them away from other borrowers and thus create a credit crunch.¹⁴

¹² Here the terminology is adopted for the case of loans in order to preserve the continuation of the argument. The basic framework is more general and refers to all risky assets. For a thorough exposition of the analytics of this approach see, for example, Huang and Litzenberger (1988). The portfolio choice approach was used by Caprio Jr. (1992) to analyze bank behavior during the reform process.

¹³ Since the portfolio of banks consists of riskless government securities and risky assets, the variance of portfolio is the weighted average of these assets. Using this relation one can derive the expression given above for the share of resources allocated to the corporate sector.

¹⁴ If the corporate sector is identified with the private sector, and if extending loans to state economic enterprises is not considered risky, then such behavior can be viewed as the main reason behind the crowding out of the private sector in such economies.

Figure 1

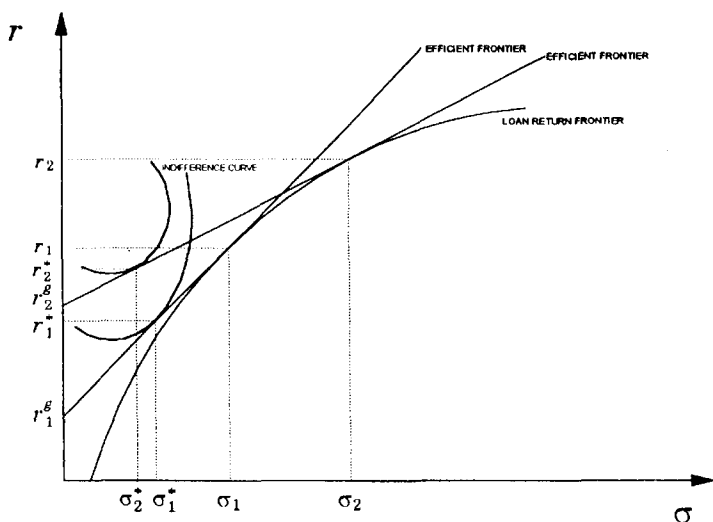


Table 1. PSBR and the share of riskless assets in commercial bank portfolios in Turkey

Year	Public Sector Borrowing Requirement (% of GNP)	Share of Riskless Assets in Commercial Bank Portfolios (%)
1986	4.7	22.15
1987	7.8	26.11
1988	6.2	33.16
1989	7.2	35.01
1990	10.2	27.40
1991	14.5	35.47
1992	14.9	33.61

Source: PSBR figures are those released by the Undersecretariat of the Treasury and Foreign Trade; the last column is calculated from data given in *Money and Banking Statistics 1986-1991*, The Central Bank of the Republic of Turkey, Ankara, 1993.

Turkey's experience in the second half of the 1980s can be viewed as an example of the adverse effects of a high public sector borrowing requirement (PSBR) on the credit market. Although Turkey introduced an auction

system¹⁵ to sell government securities at a market-determined rate as an integral part of the structural adjustment-cum-financial liberalization program introduced in 1980, the economic policies followed did not succeed in reducing or even stabilizing the public sector borrowing requirement at reasonable levels. Therefore, as can be seen from Table 1, the ratio of risk-free assets (defined here as government securities and loans to the central government) to loans extended by commercial banks increased considerably in the 1986-1992 period.¹⁶

Although the close relation between the rise in the PSBR and the increase in the share of riskless assets in the portfolios of commercial banks is clearly visible from Table 1, the increase in the latter variable cannot be attributed solely to the change in PSBR. Indeed, Figure 1 and the explanations given in relation to it are based on a *ceteris paribus* assumption, which in this case unrealistically rules out any change in the uncertainty perceived by banks.

In the following subsection a particular behavior of the government which increases the uncertainty perceived by economic agents, particularly by banks, will be discussed so as to highlight the importance of this problem.

The uncertainty-augmenting effect of policy reversals and bank behavior

There is nothing mysterious about the uncertainty-increasing effect of a change in a system's parameters which are relevant for decision-makers. Therefore, in some sense, any reform program will increase the uncertainty perceived by economic decision-makers until they are able to achieve reliable estimates of the

¹⁵ It should also be pointed out that in Turkey there is a captured portion of the demand for government securities due to the imposition of a constraint on the asset composition of banks. Banks are obliged to invest a certain portion of the deposits they collect in government securities in order to fulfill their liquidity requirements. The existence of such a constraint may be interpreted as being incompatible with the idea of market determination of interest rates on government securities. However, as was demonstrated in Ersel (1992), for most of the period in question this constraint was not binding since bank holdings of government securities were considerably higher than the implied lower bound. For a detailed analysis of the effects of public sector borrowing on financial markets and banks, see Atiyas and Ersel (1994).

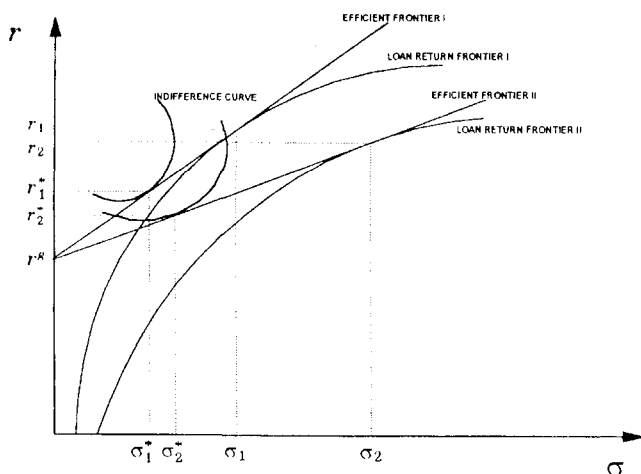
¹⁶ Loans of commercial banks are defined as the sum of loans to non-financial public enterprises, loans to local governments, loans to non-commercial bank financial institutions (investment and development banks and non-bank financial institutions), loans to the private sector, and credits extended to non-residents. In the BIS risk-weighting scheme, the first two types of loans are akin to riskless government securities. However, since these loans are relatively small in the portfolios of commercial banks, they are not counted as riskless assets.

new parameters. The question revolves around minimizing the time and effort required of economic agents to regain confidence in their estimates of the relevant parameters. Government actions play a significant role in this regard. Indeed, if decisions are consistent and clearly indicative of the policies to be followed, then economic agents will be in a better position to filter out the noise that distorts the estimation process.

Such a rise in uncertainty may be the outcome of policy uncertainty, which occurs when the public assigns high probability to policy reversals. As it was demonstrated in Rodrik (1989), when government policies are suspected of being prone to reversal, entrepreneurs will be extremely reluctant to make non-reversible decisions such as those related to fixed investments. The effect will be exacerbated once the financial sector is added to Rodrik's framework. When banks assign high probability to policy reversals, they will face difficulties in determining the expected return on projects. In terms of Figure 2, this means that the loan frontier will shift towards the southeast. Even without a change in the return on the riskless asset, at the new equilibrium point the proportion of banks' loans to corporations will be lower than the pre-reform ratio. This result strengthens the conclusions embodied in Rodrik (1989). At the same time, bringing banks into the picture also complicates the issue by emphasizing the multi-dimensional nature of the policy credibility problem.¹⁷

¹⁷ In Dr. Alaa El-Shazly's comment, the following question was posed: Is it advantageous for the government to follow the strategy of policy reversal? In a 2x2 non-cooperative game framework, the author demonstrates that once the credibility of government policies is established and the other player takes the government's strategy as a given, then the outcome is Pareto superior with respect to the equilibrium of the original game. However, in order to understand the problem of policy reversals, one should leave the world of static models. The policy credibility problem is due to the fact that the government's optimal program is time dependent. As Kydland and Prescott (1977) demonstrated, governments may not be able to precommit themselves to carry out promised policy actions; instead, they may choose to follow discretionary policies to gain flexibility in the short run. One solution as observed by the author is the enforcement of such policy rules by an external agency, e.g. international institutions. Another may be to follow the practice of countries like Germany, New Zealand and Chile and assure the autonomy of Central Banks and their effectiveness in implementing monetary policy. This problem is analyzed thoroughly in Cukierman (1992). One important aspect of the policy credibility problem lies in the nature of the game played. Dr El-Shazly discusses the issue in a non-cooperative game framework. However, if preplay communication is allowed, that is, if the game is transformed into a cooperative one, then the outcome can be improved upon the non-cooperative solution. The whole idea behind seeking consensus in implementing economic reforms is to lay the foundations for establishing a coalition among the decision-making units of an economy, including the government itself. Bruno (1993) deals with this problem, which attracted the interest of not only economists but also political scientists, by referring to the Israeli and Latin American experiences.

Figure 2



Turkey suffered from both high public sector deficits and policy uncertainty during her reform process. Although the implementation of the reform program was reasonably consistent in promoting exports, a similar attitude was absent from the remaining issues, including the country's investment strategy.¹⁸ This kind of policy uncertainty directly affected the corporate sector, and private fixed investments remained rather weak until the end of the decade. On the other hand, the reluctance of entrepreneurs in undertaking investment projects was compounded by the finance constraint, as banks viewed the financing of investment projects as too risky under the existing conditions. Hence, the corporate sector, albeit able to receive loans from the banking sector for foreign trade activities, had to rely on its own internal funds and on rather limited medium and long-term preferential credit allocated by investment and development banks under the government's guidance. In other words, despite all the efforts aimed at encouraging financial markets to play a significant role in the allocation of financial savings, the importance of administrative decisions in this sphere remained almost intact.

These conclusions were also supported by the findings of a survey conducted in 1991 by a team of researchers.¹⁹ The survey was based on questionnaires

¹⁸ This interpretation is based on the discussion in Ersel (1991).

¹⁹ The complete set of results of this survey was reported in Atiyas, Ersel and Ozturk (1993). For a summary of the main findings, see Atiyas and Ersel (1994).

sent to the heads of the credit departments of a sample of banks operating in Turkey in the summer of 1991. The main idea was to identify the behavior of banks when confronted with rather austere imperfections in financial markets due to problems of information and costly contact enforcement. One of the major findings of the survey was that the uncertainties brought about by the liberalization program coupled with inconsistencies in the implementation of economic policies actually induced banks to practice credit rationing.

Banks classify their potential customers into three risk groups, namely: blue chip companies; the relatively risky but creditworthy companies; and companies which are considered not eligible for credit. Banks were extremely reluctant to expand their clientele and were inclined to concentrate their activities on those companies classified as "Blue Chip". When banks were asked to identify what would make them more willing to lend to borrowers not within their customer base, an overwhelming majority chose the option "reduce macroeconomic uncertainties and establish an information-gathering system to collect necessary data to make loan decisions".²⁰

What should governments do to ensure the success of reforms?

In broad terms, two markedly different approaches to secure the safe and sound working of financial markets can be distinguished. The first is the liberal approach, which relies on the working of competitive forces and sees government intervention as distortionary. The second, which can be referred to as the New Keynesian approach, places relatively more emphasis on the imperfections in financial markets stemming from informational problems, and hence calls for government intervention. The fundamental thesis embodied in the latter approach, as aptly summarized in Stiglitz (1993), is that "financial markets are markedly different from other markets; that market failures are likely to be more pervasive in these markets; and that there exist forms of government intervention which will not only make those markets function better, but which will improve the overall performance of the economy."²¹

²⁰ Pehlivan (1991) also reports similar results from a survey that she independently conducted.

²¹ J.E. Stiglitz is the leading theoretician and advocate of this new approach. His ideas on the economic role of the state are put forth and discussed by a group of economists in Heertje, ed. (1990). In Stiglitz (1993), the focus is on the role of the government in financial markets.

The New Keynesian approach can be viewed as a reaction to the liberal orthodoxy of the 1980s. However, one should also note that it differs considerably from the Keynesian thought that shaped economic policies in almost all countries until the 1970s. First of all, the new approach explicitly calls on governments to take actions aimed at creating the appropriate environment for the market system to perform satisfactorily, and not at replacing it. Secondly, the New Keynesians are not as overly confident as their predecessors, and are therefore questioning the efficiency of governments in carrying out such a function.²² Hence, identifying the need for government action is only the starting point rather than the main issue. The real problem is to inquire about the possibility of designing government actions aimed at enhancing the contribution of financial markets to the steady growth of the real sector.

Two types of government action - increasing public sector deficits and following non-credible economic policies - have been discussed in this paper. From these discussions it becomes clear that governments should refrain from such actions if their ultimate goal is to secure the contribution of the financial sector to the development of the economy.

On the other hand, government policies can also positively affect the performance of the financial system. First of all, the government may take the initiative in broadening the scope of financial markets. The introduction of new organized financial markets is expected to contribute to increase the information available to economic decision-making units, and therefore enhance their ability to evaluate risks.²³ However, in most instances existing financial institutions are quite reluctant to bear the cost of establishing new markets. Turkey's experience over the last decade indicates that the government's lead in establishing the stock exchange in 1986, as well as the efforts of the Central Bank in founding the interbank money market in 1987 and the foreign exchange market in 1988, were absolutely necessary to start up the process.

²² Again as Stiglitz (1993: 2) points out: "It is now widely recognized that the existence of market failures need not, by itself, constitute justification for government intervention: government regulation, no less than markets, is beset by problems."

²³ The second part of the above assertion is not self-evident. Ghandhi (1987) and Stiglitz (1989) warn against the poor working of such markets in general, and particularly in developing countries, where they lack depth and breadth. The arguments of these authors should be viewed as criticizing the exaggeration of the role of financial markets, but not as suggesting to proceed without them.

Secondly, governments may also contribute to the safe and sound operation of the financial system by promoting and/or enforcing measures to reduce uncertainty. On the one hand, governments have the power to regulate markets so as to minimize systemic risks.²⁴ To this end, governments should enforce rules concerning the working of markets, introduce settlement and payment systems, establish the requisite supervisory authorities, and set prudential standards. On the other hand, government actions may reduce uncertainty by increasing the supply of information to the market. Information is a public good. It is well known that the competitive mechanism is not capable of securing a sufficient supply of public goods. Therefore, governments should use their power to introduce regulations such as disclosure requirements in order to guarantee the flow of information necessary for the financial system to contribute to the development of the economy.

Finally, it should also be stressed that, within certain limits, governments have the power to influence the institutional structure of the financial system. In other words, governments are in a position either to follow the policy of promoting partially-overlapping competitive financial institutions²⁵ or to choose to lend support to existing institutions so that these can adapt to the changing environment. At first, it is almost impossible to argue the superiority of one choice of institutional strategy over the other. Logically, one can argue that if the former strategy is adopted and the risk-taking behavior of newly-created financial institutions differs from previously-existing behavior, the system may gain some flexibility in adjusting to changes in the economic environment. On the other hand, one can also argue that if the existing financial system is characterized by the dominance of universal banks, flexibility will again be achieved, since such financial institutions can diversify their operations among various financial activities.²⁶

²⁴ In OECD (1991: 4), a systemic risk is defined as "... the financial risk that arises from institutional and structural arrangements in markets which all participants (in the economy) must bear as a group."

²⁵ Partially overlapping competitive financial institutions are those which compete with each other in some, but not all, financial markets and/or instruments.

²⁶ In Turkey, for example, the reform strategy was based on promoting competition among the existing financial institutions, that is, universal banks. As a result of this approach, the Turkish financial reforms strengthened and consolidated the dominance of banks in the financial system. This has had an impact on the mode of external financing of the corporate sector and the development of financial markets. The institutional structure of the domestic financial system also affected the pattern of articulation between the latter and the international financial system. See Ersel (1994) for a discussion of the last point in the case of Turkey.

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Comments

Alaa El-Shazly

In recent years many developing countries have taken steps towards more liberal economic systems in which private enterprise replaces the public sector as the main engine of growth and development. The liberalization measures aim essentially at eliminating price and non-price controls in the real and financial sectors (associated with extensive government intervention in economic activity) and emphasize private and market-based decision-making for a more efficient functioning of the economy. Because finance is the key to investment and hence to growth, financial reform has been at the heart of financial adjustment programs. Liberalization of the financial sector should not be a target in itself; rather, it is needed for promoting performance on the real side of the economy, and it is to be undertaken alongside macroeconomic reform.¹

The paper by Hasan Ersel examines the contribution of financial liberalization to tangible progress in the real sector, with special reference to the case of Turkey. It suggests that some form of prudential - as opposed to extensive - government intervention may be desirable. The paper considers the implication of informational imperfections in financial markets for the allocation of resources, taking the phenomenon of credit rationing as an example, and points out that there exist forms of government intervention which will make these markets function better and improve the overall performance of the economy.² This is in contrast to government actions such as reversals of policy decisions, which raise doubts about public policy credibility and increase the business risk borne by individual as well as institutional investors, with adverse consequences for the functioning of financial markets.

In this regard, Ersel's analysis of high public sector deficits and credit crunches warrants a remark. The author extends the analytics of consumer equilibrium in the standard two-parameter consumption-investment model of capital market theory to the case of bank equilibrium in the presence of a riskless asset

¹ A review of recent theoretical results in the liberalization literature may be found in World Bank (1989) and the special issue on finance and development in the *Oxford Review of Economic Policy* (1989).

² On the role of the government in financial markets, see Stiglitz (1994).

(such as government securities). The analysis shows that, *ceteris paribus*, an increase in the riskless return will lead banks to allocate more of their resources to the government sector at the expense of loans supplied to the riskier corporate sector. However, it is not difficult to see that the *ceteris paribus* assumption, apart from being implausible, has biased the result of the analysis. Specifically, with Turkey introducing an auction system to sell government securities at market-determined interest rates as mentioned in the paper, these market rates will normally influence the Central Bank discount rate, and hence bank rates. While there are limits to the increase in bank loan rates because of the related adverse incentive and selection effects shown in the Stiglitz-Weiss bank model,³ an increase in the return on government securities will naturally be associated with a change in the mean-variance space of risky bank loans, thereby inducing a shift in the loan return frontier of Figure 1 in the paper. The nature of this shift will be determined by the price and non-price (e.g. collateral) terms of debt contracts. Hence, as Ersel mentions in his paper, the *ceteris paribus* assumption is quite strong indeed, and one should seek other plausible explanations for the close relationship between the rise in public sector borrowing requirements and the increase in the share of riskless assets in Turkish bank portfolios of the kind reported in the paper. This will lead to the important issue of public policy credibility and bank lending behavior, which is discussed extensively elsewhere,⁴ and which will be addressed briefly below.

Reform, Commitment, and Credibility

One can use game theory to think about the credibility of reform programs and its implications for the working of financial markets. Consider a sequential move game between the government undertaking economic reform and investors, namely banks for present purposes.⁵ Investors move first by deciding whether to increase their investments in risk assets or not; the government then moves by deciding whether or not to carry through the economic reform policies.

³ See J. Stiglitz and A. Weiss (1981), "Credit Rationing in Markets with Imperfect Information", *American Economic Review*, Vol. 71, No. 3, pp393-310.

⁴ See, for example, A. Dixit and B. Nalebuff (1991), *Thinking Strategically*, New York: W. W. Norton.

⁵ The exposition applies to private decision-making in general when the latter set of "players" refers to individuals or institutional investors, e.g. banks or other depository financial intermediaries.

While the government does not move first, it achieves a strategic advantage through a commitment to a response rule. The response rule prescribes government actions as a response to investors' moves. Although the government acts as a follower, the commitment to the response rule must be in place before investors make their move.⁶ The important feature of this game of strategic moves is that once investors take their action, there is an incentive for the government to renege on its promise by reversing previously-made policy decisions. Such policy reversals may be due, for instance, to the high social costs of reform as perceived by the government at a given point in time.

Table 1. The game between the government and investors

<i>Investors' Strategy</i>		<i>Government Strategy</i>
Not increasing risk-taking investments	Increasing risk-taking investments	
<p>1</p> <p>A</p> <p>2</p>	<p>0</p> <p>B</p> <p>3</p>	Policy reversals
<p>3</p> <p>C</p> <p>0</p>	<p>2</p> <p>D</p> <p>1</p>	No policy reversals

Assignment of points:

	Investors	Government
Increasing risk-taking investments	0	1
Not increasing risk-taking investments	1	0
Policy reversals	0	2
No policy reversals	2	0

⁶ For instance, a government which promises to sustain consistent reform policies as well as reduce systematic (or macro) risk if investors react positively to the initial stages of the liberalization process by increasing their risk-taking investments (i.e. risky loans) is establishing such a response rule. In particular, the government's response rule in this case is a compelling - as opposed to deterring - promise designed to induce investors to take a favorable action.

Regarding the behavior of the government and investors, two questions must be considered: (i) Will investors increase their investments in risk assets? (ii) Will the government keep its promise to carry through the reform measures? There are two possible actions that investors can take, namely increasing risk-taking investments or not increasing them. Likewise, there are two possible actions that the government can pursue, namely carrying through the reform policies or not carrying them through. Such a context points to four possible moves and corresponding outcomes in the game between the government and investors as illustrated in Table 1. Each of the four cells in Table 1 refers to a possible outcome; the government and investors each have preferences about the four possible outcomes shown in the table. For expository purposes, preferences may be measured in terms of points, so that the more points an economic agent assigns to a given outcome, the more he prefers it.

The government has an incentive for policy reversals given the social costs associated with reforms, so let us assume that it assigns two points to not carrying through the reform measures. Also, the government assigns one point to having investors increase risk-taking investments. The total number of points assigned by the government to each outcome is shown in each cell in Table 1. The government's most preferred outcome is B, in which investors increase risk-taking investments and the government avoids the costs of carrying through the reform program. The government's worst outcome is C, in which investors do not increase risk-taking investments and the government incurs the costs of reform.

Investors, on the other hand, would like to see the government carrying through the reform program and reducing business risks, so they assign two points to having no reversals in policy decisions. They would also like to postpone expanding their business activity until tangible progress has been made in the direction of a market-oriented economy, and they assign one point to not increasing risk-taking investments.⁷ The total of points assigned by investors in each outcome is also shown in each cell in Table 1. The most preferred outcome from the point of view of investors is C, in which they do not increase risk-taking investments and the government carries through the reform program. Their worst outcome is B, in which they do increase risk-taking invest-

⁷ This appears reasonable in light of the somewhat slow response often observed in investors' behavior during the early stages of reform programs.

ments and the government does not carry through the reform program.

The equilibrium of the game (situation of conflict) under discussion is outcome A, in which the two players do the best that they can for themselves. Outcome A is an equilibrium point because investors recognize that the government has an incentive to renege on its promise when the time comes for carrying it out. In other words, investors recognize that the government's promise of no policy reversals is not credible. To see how credibility affects the equilibrium of the game, suppose that the government is credible, so that if investors increase their risk-taking investments, policy reversals will not be a possible choice for the government. The effect of this state of affairs is to rule out cell B in Table 1 as a possible outcome. By making its promise credible and by keeping in mind that investors choose actions in their own best interest, the government achieves outcome D (i.e., policies are upheld and there is an increase in investors' risk-taking investments), which is obviously preferable to outcome C. To be sure, outcome D has positive implications for the development of financial markets and the performance of the economy within a liberal economic system.

This brief exposition attests to the importance of public policy credibility. In order to give its promise credibility the government must take supporting actions that make breaking the promise too costly (i.e., more expensive than the costs of carrying through the reform measures). Public policy credibility requires a strong commitment to the government's strategic move or promise of carrying through the reform program. Such a commitment could take the shape of an unbreakable "reform" rule stating that reversals in policy decisions send the wrong signals to the market, thereby threatening the efficient functioning of the economy. This rule could be enforced by some outside agency, such as the international institutions which provide the necessary financial and technical assistance during the reform period contingent upon satisfactory progress towards a private sector economy. Prudential government intervention in financial markets is desirable if it encompasses institutional regulations which strengthen the role of the private sector in monitoring financial institutions (e.g., adequate bank capital requirements) and help to enforce reform rules and improve the working of financial markets. Only then will the various economic agents be genuinely committed to economic reform.

Pierre Abou-Ezze

The author of this paper has effectively argued that financial liberalization introduces additional uncertainties that affect the behavior of economic decision-making units. The sources of these uncertainties are two: the structural adjustment effect resulting from the decrease or nullification of the information set available to agents; and the liberalization effect stemming from the privatization of risks. Additional uncertainties lead to credit rationing on the part of commercial banks, which in turn will have a negative impact on economic growth; hence, the author stresses the importance of the role of government in adopting policies during and particularly after the reform so as to reduce the uncertainties as well as the risks perceived by economic agents. Overall, the paper is well argued on a subject of considerable importance. The few comments and observations that follow might be viewed as footnotes at best:

First and foremost, credit rationing may not necessarily follow a liberalization process even under the conditions stated by the author, namely high public sector deficits during liberalization. In the Philippines, for instance, the liberalization program undertaken between 1980 and 1983 was accompanied by a 25 percent yearly expansion of domestic credit. Likewise, Indonesia witnessed a high rate of credit growth during the second phase of the reform that took place in 1989.

Moreover, credit rationing may not be very significant in an economy liberalizing its financial markets while remaining at the early stages of development. Informal markets meet the credit needs of most enterprises that are largely family-owned. In addition, liberalization programs may be introduced in a way as to minimize additional uncertainties or to avoid their creation altogether. The gradual introduction of financial reforms may lead neither to the nullification or significant decrease of the information set available to economic agents nor to an increase in the risks perceived by economic decision-making units. This is the case because the gradual introduction of the reform process allows sufficient time for the training of bank staff, the strengthening of bank supervision in step with the removal of restrictions, and the development of markets as well as instruments for overall monetary control. Hence, the importance of the role of government is felt as the latter follows a slow and gradual liberalization process instead of focusing on policies to deal with the consequences of a sudden, fast-paced deregulation program.

Finally, the timing of the liberalization process may have a significant impact on the amount of additional uncertainties introduced. Indeed, the latter could be magnified if there is general instability at the macroeconomic level. Thus, governments must stabilize inflation rates, exchange rates, and capital flows before embarking on any ambitious reform program.

4

The Effect of Financial Liberalization on the Efficiency of Turkish Commercial Banks

Osman Zaim

Introduction

The financial markets of developing countries are undergoing a period of rapid transition, and Turkey is no exception. Structural changes in the Turkish economy, technological breakthroughs, the competitive structure of the financial services industry, and changing borrower demands have all had a significant impact on the delivery of credit to industry, agriculture, and households. A fundamental concern among borrowers and depositors is the impact of such changes on the cost and availability of credit and banking services. The ability of commercial banks to continue to deliver credit efficiently in the future will play a major role in determining the efficiency of Turkey's industrial and agricultural production.

The topic of efficiencies in commercial banking can be subdivided into issues regarding the scale of production (economies of scale), the cost complementarities of joint production (economies of scope), and deviations from an efficient frontier (X-efficiency). Greater degrees of efficiency among banks could result in greater accessibility of loanable funds, higher bank profitability, more preferable rates for borrowers and depositors, increased services for customers, and greater profitability for long-term viability by using savings-generated efficiencies as a capital cushion.

Since policies regarding the regulation and/or deregulation of commercial banks and their competitors could be guided by inferences based on empirical results of studies of bank efficiency, it is crucial to apply to the banking sector the methodologies developed for measuring efficiencies.

In this brief introduction, the setting for efficiency measurement of commercial banks is established, and potential benefits of efficiency analysis are reviewed. The objective of this work is to investigate the effect of financial liberalization policies on the economic efficiency of Turkish commercial banks at the micro level.

Before the introduction of the 1980 stabilization program, the banking sector in Turkey was characterized both by restricted entry of domestic and foreign banks and by regulated interest rates. The lack of interest rate competition in the sector forced banks to compete for deposits by establishing a network of branches across the country. This led to overbranching and overstaffing in commercial banking. The main goal of the financial policies embodied in the 1980 stabilization program was to create a competitive environment and thereby enhance the efficiency of the sector. The first steps taken in this direction were to pursue liberal policies such as allowing new entries (both domestic and foreign) into the sector and liberalizing interest rates, commissions and fees. The sector was quick to respond to the program. The liberalization of interest rates and increased competition in the market forced banks to decrease their costs. As a result, unprofitable branches were closed and the number of staff was reduced in many banks.

To investigate the effect of financial liberalization policies on the economic efficiency of Turkish commercial banks at the micro level, a nonparametric frontier methodology is applied to commercial banks for representative years in both pre- and post-liberalization eras. The method of analysis relies on estimates of multi-output production and cost frontiers using linear programming techniques.

Estimating production frontiers by imposing different scale assumptions on the technology and by measuring each unit's distance from the frontier will not only yield information on the technical inefficiency of the unit under investigation, but will also determine at which scale it operates. In other words, the methodology allows the exploration of whether a particular bank is experiencing decreasing, increasing, or constant returns to scale. Thus, a comparison of the scale economies of each bank in the pre- and post-liberalization eras will shed light on whether the liberalization policies succeeded in forcing banks to operate at the optimum scale. Similarly, from the comparison of bank level cost efficiency measures, one can obtain information on whether the liberalization policies succeeded in forcing banks to allocate resources more optimally. This paper will review the structure of the Turkish banking sector, followed by a model that will be used for efficiency comparisons. Subsequently, the paper will present data sources as well as a discussion of results, followed by a conclusion.

Structure of the banking system

The Turkish financial system includes the Central Bank, commercial banks, as well as investment and development banks. Commercial banks are the dominant institutions of the system. Investment banks were established with the purpose of underwriting securities; however, they are also engaged in commercial banking without depending on deposits as a source of funds. Development banks, on the other hand, are primarily engaged in extending medium and long-term loans to selected industries. Their funding comes either from the government or from international organizations like the World Bank. The total share of investment and development banks in the system is limited; in fact, in 1990 only nine percent of the consolidated total assets of all banks belonged to these institutions. Thus, given the rather different structure of development and investment banks as well as their limited scope in the financial system as a whole, the focus of this work will be on commercial banks so as to maintain the comparability and uniformity between the units under investigation.

As in most other countries, banking is a heavily regulated industry in Turkey. Restrictions on entry and exit, capital adequacy, reserve and liquidity requirements, asset portfolio restrictions, number of branches, deposit insurance, and interest rates on deposits and loans are all regulated by the government. The financial reforms in Turkey starting in 1980 were designed to reduce state intervention and increase the role of market forces in the operation of the financial system. The reforms included both the abolition of interest rate ceilings and reductions in reserve and liquidity requirements as well as in financial taxes. In addition, together with recently-established Turkish banks, foreign banks were permitted to operate in Turkey, and restrictions on foreign exchange operations were significantly relaxed during that period.¹

The role of government in the banking system is not limited to its regulatory authority. As of the end of 1990, the state is the owner-manager of eight commercial banks from a total of 56 banks in the country. In terms of size, banks owned by the state control 49.7 percent of total assets in the commercial banking system.

¹ For a more comprehensive review of policies during the financial liberalization era, see Akkurt et al. (1991).

With regard to ownership, private banks in Turkey can be grouped as domestic and foreign banks. Table 1 presents the distribution of total assets, deposits and loans among commercial banks owned by the state, Turkish residents, and foreigners for years 1981 and 1990.

Close inspection of Table 1 indicates that the sector was quick to respond to the measures which foster competition. During the 1981-1990 period the number of commercial banks in the sector increased from 42 in 1981 to 56 in 1990. Out of 42 banks in 1981, 13 banks were either liquidated or merged with others, implying that 27 new banks entered the sector between 1981 and 1990. Of these new entrants, 18 were foreign-owned, either as branches or as subsidiaries.

Together with the new entries in the market, the liberalization of interest rates forced banks to decrease their costs by closing unprofitable branches and reducing the number of staff. Although the number of banks in the 1981-1990 period increased significantly, the number of branches rose by only 4.5 percent (from 6,259 to 6,543), whereas it had risen by 70 percent in the 1972-1981 period. As for the number of staff, the rate of increase was 14.9 percent between 1981 and 1990 (from 132,313 to 151,982), which was much lower than the rate of 64 percent during the 1972-1981 period. Together with these developments, the profitability of the banking system gained enormous momentum during the financial liberalization era. As exhibited in Table 3, real profits for private commercial banks have increased as much as five times over the 1981-1990 period, surpassing the real profitability index of manufacturing firms by as much as 2.25 times as of 1989. Moreover, neither a modest real increase in deposits (34 percent) and loans (58 percent) nor the developments in the nominal and effective spreads can explain the sharp profit increase entirely. Hence, taking the cost-saving measures described above into consideration, one must rely on increased efficiency in the banking sector as a whole when trying to explain the success of the sector.

Table 1. Structure of the Turkish commercial banking industry

Bank Group	Number	Total Assets		% Share		Deposits		% Share		Loans		% Share	
		Billion TL	1990	1981	1990	Billion TL	1990	1981	1990	Billion TL	1990	1981	1990
Commercial Banks	42	56	2845	158670	100	100	1648	95328	100	100	1420	70595	100
State Banks	12	8	1338	78880	47	49.7	528	46250	32	48.5	739	36121	52
Private Banks	24	25	1419	73831	50	46.5	1081	46805	66	49.1	654	31639	46
Foreign Banks	6	23	88	5959	3	3.8	39	2273	2	2.4	26	2835	2

Source: Banks' Association of Turkey.

Table 2. Distribution of branches and employees in 1981 and 1990

Bank Groups	Number of Employees		Number of Branches	
	1981	1990	1981	1990
Commercial Banks	132313	151982	6259	6543
State Banks	68127	80825	2591	2975
Private Banks	62152	68145	3545	3455
Foreign Banks	2034	3012	123	113

Source: Banks' Association of Turkey.

Table 3. Indicators of profitability

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1. Index of real profits of banking sector (a)	100.00	82.70	147.89	259.55	247.00	421.30	586.20	626.98	429.40	536.81
2. Index of real profits of manufacturing industry (b)	100.00	99.27	113.66	158.90	222.77	181.78	237.37	209.63	191.82	
3. Index of real deposits (a)	100.00	128.12	127.67	138.85	153.92	165.06	169.20	148.08	145.15	134.64
4. Index of real lending (a)	100.00	112.02	114.50	100.49	122.64	164.40	188.88	152.94	146.70	158.89
5. Nominal spread	16.80	12.20	13.00	16.50	15.50	20.50	23.10	28.10		
6. Effective spread	47.10	33.00	26.80	34.80	33.90	33.30	49.60	39.20		

Notes: a: Deflated by Consumer Price Index

b: Total profits of 500 largest firms deflated by Producer Price Index

Sources:

Rows: 1,3,4: Various publications of Banks Association of Turkey;

2: Petrol Is Almanac (1990);

5,6: Capoglu Gokhan (1990).

The section below summarizes the methodology used to investigate the effects of liberalization policies on the economic efficiency of commercial banks.

Model

To investigate the effects of liberalization policies on the economic efficiency of Turkish banks at the micro level, a nonparametric frontier methodology is applied to commercial banks for both pre- and post-liberalization eras. This method of analysis has been used in most previous bank efficiency studies. For example, Sherman and Gold (1985), Parkan (1987), and Vassiloglu and Giokas (1990) have analyzed efficiency differences between bank branches, whereas Charnes et al. (1990), Ferrier and Lovell (1990) and Berg, Forsund and Jansen (1991) have focused on efficiency differences between banking firms.

The method used has been introduced by Farrell (1957). In his influential work Farrell (1957) showed how one can measure productive inefficiency and its components (allocative and technical inefficiencies) within a theoretically meaningful framework. His initial approach has been adopted and extended by Farrell and Fieldhouse (1962), Seitz (1970), Afriat (1972), and Meller (1976). In more recent studies, Fare, Grabowski and Grosskopf (1985), Fare, Grosskopf and Lovell (1982), and Banker, Charnes, and Cooper (1984) showed how one can decompose Farrell's measure of technical inefficiency and thus extract information on the scale of the unit under investigation.

The approach utilizes a sequence of linear programs to construct a transformation frontier so as to compute efficiency measures relative to said frontier. In order to describe the theoretical underpinnings of the model employed, suppose we observe a sample of K production units, each of which uses inputs $x \in R_+^N$ available at prices $w \in R_+^N$ to produce outputs $y \in R_+^M$ in an environment characterized by variables $\mu \in R_+^S$ and $\alpha \in R_+^T$. As a matter of notation, let x_i^k be the quantity of input i used by unit k , and let y_i^k be the quantity of output i produced by unit k . These data can be placed into data matrixes M , a $K \times M$ matrix of output levels whose k,i th element is y_i^k and N a $K \times N$ matrix of input levels whose k,i th element is x_i^k .

Environmental variables μ and α are exogenously-fixed inputs and outputs that a decision-making unit cannot control, at least in the short run. The decision-making units would like to limit the elements of μ as much as possible,

given outputs. For the exogenously-fixed outputs, the decision-making units would like to expand the elements of α as much as possible, given inputs. Again, for notational convenience, let the data on these be placed into data matrixes P , a $K \times S$ matrix of exogenously-fixed inputs (or categorical variables) whose k, i th element μ_i^k and R , a $K \times T$ matrix of exogenously-fixed outputs whose k, i th element is α_i^k .

Using the notation at hand for any $y^k \in R_+^M$, production possibilities can be characterized in terms of input requirement set $L(y)$, which can be constructed from observed input-output data by means of

$$L(y^k) = \left\{ x^k : z \in R_+^K, z^T M \geq y^k, x^k \geq z^T N, z^T R \geq \alpha^k, \mu^k \geq z^T P, \sum_{i=1}^k z_k = I \right\} \quad k = 1, 2, \dots, K \quad (1)$$

where z is a $k \times 1$ intensity vector. Intuitively, this equation constructs a reference technology from observed inputs and outputs. Relative to this bounding technology, the technical efficiency of each observation is calculated by solving K linear programming problems of the form:

$$\begin{aligned} F(x^k; y^k) &= \min \lambda \\ \text{Subject to} \\ z^T M &\geq y^k \\ z^T N &\leq \lambda x^k \\ z^T R &\geq \alpha^k \\ z^T P &\leq \mu^k \\ \sum z &= I \end{aligned} \quad (2)$$

The solution vector λ in the above problem measures the fraction by which a firm can multiply its input vector and still produce no less of any output. If it is not possible to produce the existing outputs with a radially smaller input vector, then λ takes the value of 1, expressing that the unit under investigation is technically efficient. The choice of this input-saving efficiency measure is in coherence with the expressed interest of the banking sector in reducing costs. In the above formulation, technical efficiency is calculated relative to a production frontier that satisfies strong disposability of both inputs and outputs as well as variable returns to scale (VRS). However, by altering the constraint on the intensity vector z , one can also construct production frontiers that satisfy different scale assumptions, such as constant returns to scale

(CRS) (by deleting the last constraint) and non-increasing returns to scale (NIRS) (by changing the last constraint as $\sum z^T \leq 1$).

By comparing the efficiency scores obtained from production frontiers with different scale assumptions, one can also find out at which scale the unit operates. Since the VRS production frontier envelopes the data more closely than the NIRS production frontier, the comparison efficiency scores from these two frontiers will reveal information on whether a particular unit is operating under IRS or NIRS. While equality between the two scores indicates NIRS technology, inequality means that the unit operates under IRS. Furthermore, since a production frontier with the CRS assumption envelopes the data least closely of all, the resulting efficiency scores will be less than or equal to those calculated with NIRS technology. Thus, for any observation operating under NIRS, equality between the efficiency scores from CRS and NIRS technologies implies CRS, whereas inequality implies DRS.

If input price vectors are known, the cost efficiency of each unit may be calculated by solving K additional linear programs of the form:

$$\begin{aligned}
 Q(y^k; w^k) &= \min w x^k \\
 \text{Subject to} \\
 z^T M &\geq y^k \\
 z^T N &\leq x^k \\
 z^T R &\geq \alpha^k \\
 z^T P &\leq \mu^k \\
 \sum z^T &= 1
 \end{aligned} \tag{3}$$

The solution vector x_*^k is the cost minimizer for the input price vector w^k and the output vector y^k . The measures of cost efficiency $C(x^k; y^k; w^k)$ and allocative efficiency $A(x^k; y^k; w^k)$ are given by

$$\begin{aligned}
 C(x^k; y^k; w^k) &= \frac{Q(y^k; w^k)}{w x^k} = \frac{w^k x_*^k}{w^k x^k} \\
 A(x^k; y^k; w^k) &= \frac{C(x^k; y^k; w^k)}{F(x^k; y^k)}
 \end{aligned} \tag{4}$$

These measures can easily be modified if interest centers on the percentage by

which cost is increased due to production inefficiency and its components (technical and allocative inefficiencies). For example, C^{-1} -1 measures the percentage by which cost is increased due to both types of inefficiencies, while A^{-1} -1 measures the percentage by which cost is increased due to allocative inefficiency alone. Finally, $C^{-1} - A^{-1}$ shows the percentage by which cost is increased due to technical inefficiency.

Data and empirical results

The literature which models bank production and behavior is divided into two distinct categories with respect to the measurement of banks' inputs and outputs. Humphrey (1985) made a useful distinction between the production approach and the intermediation approach to bank behavior. Under the production approach banks are considered as producing deposits and loans using capital, labor, and materials. The proponents of this approach use the number of accounts and loans outstanding as banks' outputs. Their measure of total costs include all operating costs incurred in the production of outputs. The intermediation approach, by contrast, treats banks as collector of funds which are then intermediated to loans and other assets. The dollar volume of deposits and loans is the appropriate measure of bank output in this case, and the combination of operating and interest costs provides the appropriate measure of total costs. In spite of this behavioral distinction, the work by Berg, Forsund and Jansen (1991) implies that the production frontier is invariant as to how the output is measured. In their own words:

"...We found that important characteristics of the efficiency frontier for Norwegian banking are about the same whether we choose to measure output by the number of accounts and their average size or by the total balances of the accounts. This applies to the size of efficiency gains as well as to our results on economies of scale."

In this study the intermediation approach to banking behavior is adopted. The data are compiled from the publications of the Banks Association of Turkey, which publishes yearly income statements and balance sheets for each bank. The representative years for pre- and post-liberalization eras are chosen as 1981 and 1990, respectively. The year 1981 was chosen instead of 1980 in order to establish conformity with the data used for the post-liberalization era.² The sample for the 1990 data set consists of all 56 commercial banks that

² The format of balance sheets and income statements have been redesigned after 1980.

operated at that time. The sample for the pre-liberalization era, which originally consisted of 42 commercial banks, excludes three state banks whose income statements reflect some of their non-banking activities as well. The variables used for the models described above are the following:

Outputs:

y_1 = dollar volume of demand deposits

y_2 = dollar volume of time deposits

y_3 = dollar volume of short-term loans

y_4 = dollar volume of long-term loans

Inputs:

x_1 = total number of employees

x_2 = total interest expenditures

x_3 = depreciation expenditures

x_4 = expenditures on materials

Input price:

w_1 = total expenditures on salaries and fringe benefits

Total costs:

$$C = w_1x_1 + x_2 + x_3 + x_4$$

Environmental variables:

α_1 = average size of demand deposit accounts

α_2 = average size of time deposit accounts

μ_1 = number of branches

μ_2 = institutional type (1 for national; 0 for foreigner)

Production frontier results

For each bank in the sample of 56 for the year 1990 and 39 for the year 1981, linear programming problem 2 is solved for all scale assumptions. Table 4 and Table 5 below give summary statistics of the efficiency scores and returns to scale for pre- and post-liberalization eras.

Table 4. Average technical efficiency scores under different scale assumptions

	1981			1990		
	CRS	VRS	NIRS	CRS	VRS	NIRS
State	0.893	0.932	0.932	0.959	0.982	0.982
Std. Dev.	0.174	0.165	0.165	0.066	0.048	0.048
Private	0.755	0.773	0.776	0.863	0.891	0.889
Std. Dev.	0.243	0.240	0.246	0.203	0.200	0.203
Foreign	0.915	0.926	0.926	0.955	0.969	0.954
Std. Dev.	0.189	0.164	0.164	0.117	0.077	0.117
Average	0.811	0.833	0.828	0.914	0.936	0.929
Std. Dev.	0.233	0.227	0.232	0.163	0.149	0.160

These tables point to some striking facts on how liberalization policies have fostered competition. First, the level of technical efficiency has increased by 10 percent on average from 1981 to 1990. Note that all entries for technical efficiency scores in 1981 are smaller than those in 1990. Secondly, technical efficiency differences between banks have decreased over time. This evidence is due to the fact that standard deviations of technical efficiency scores for each group in 1981 are greater than those in 1990. Thirdly, banks have undergone considerable scale adjustment and were successful in achieving optimal scale. An examination of Table 5 shows that the proportion of banks operating at the optimal scale has increased from 59 per cent in 1981 to 68 per cent in 1990.

Another important fact is that the rate of change of technical efficiency has been greater in private banks compared to state and foreign banks. This finding, while closing the efficiency gap between banks, is also an indication of who benefits the most from the liberalization policies that foster competition.

Table 5. Developments in returns to scale

	1981		1990	
Number of banks with CRS	23	59%	38	68%
Number of banks with DRS	6	15%	13	23%
Number of banks with IRS	10	26%	5	9%
Total	39	100%	56	100%

Cost frontier results

In the cost version to be used presently, the method of inefficiency measurement takes on a rather simple and intuitively appealing form. In a word, a bank is said to be cost inefficient if it is dominated by one or more banks in the following sense:

- (a) Other banks have lower expenses than its own expenses; and
- (b) All output indicators of other banks are either greater than or equal to its own indicators.

To determine cost inefficiency and its components, the procedure described in Problem 3 is repeated for each bank in the samples representing pre- and post-liberalization eras. Table 6 gives the summary results for the indexes that show the average amount by which cost is increased due to production inefficiency and its components (allocative and technical inefficiencies) for each owner class.

Evidence on cost efficiency indicates that, on average, costs were 75 percent above the minimum in 1981, and that this figure drops to 38 percent (almost a 50 percent reduction) in 1990. The results indicate that the effect of allocative and technical inefficiencies on cost increases differs for pre- and post-liberalization eras. While in 1981 banks were more vulnerable to technical inefficiency, the effect of allocative inefficiency was more dominant in 1990. Also, close inspection of Table 6 shows that in both eras private and state banks differ with respect to the relative effects of allocative and technical inefficiencies on cost increases. While in state banks a large portion of cost inefficiency is due to allocative inefficiency, the same is not true for private banks, where the main determinant of cost inefficiency seems to be technical inefficiency.

Table 6. The effect of technical and allocative inefficiencies on cost increases

	1981			1990		
	$C^{-1} - I$	$A^{-1} -$	$C^{-1} - A^{-1}$	$C^{-1} - I$	$A^{-1} -$	$C^{-1} - A^{-1}$
State	0.6450	0.4822	0.1628	0.3866	0.3438	0.0428
Std. Dev.	1.0293	0.9830	0.4208	0.5457	0.4771	0.1131
Private	0.8303	0.2278	0.6025	0.4953	0.1701	0.3252
Std. Dev.	0.8836	0.2680	0.7917	0.9280	0.2769	0.8426
Foreign	0.6138	0.4658	0.1480	0.2560	0.2126	0.0434
Std. Dev.	0.0667	0.6589	0.3310	0.6883	0.6809	0.1213
Average	0.7542	0.3231	0.4311	0.3831	0.2142	0.1707
Std. Dev.	0.8960	0.5913	0.7004	0.7959	0.3438	0.5865

A comparison of rates of improvement for different ownership classes through the years indicates that a relatively higher rate of improvement of cost inefficiency in private banks closed the efficiency gap between the latter and state banks. Table 7 was designed to complement the analysis of the effect of liberalization policies on economic efficiency. It classifies banks into three categories, namely: banks which are economically efficient; those which are only technically efficient; and those which are economically inefficient; in addition, it shows their respective weights in the financial system for both eras.

A comparison of pre- and post-liberalization eras in Table 7 offers enough evidence that liberalization policies have encouraged more efficient use of resources in the Turkish banking industry. As a result, the proportion of fully-efficient banks has increased from 38 percent in 1981 to 55 percent in 1990. A high relative share of deposits and loans accruing to efficient banks in both eras is an indication of the soundness of the financial system in Turkey.

Table 7. Developments in economic efficiency

Bank Classes	1981					1990				
	Number of Banks	% Share of demand deposits	% Share of time deposits	% Share of short-term loans	% Share of long-term loans	Number of Banks	% Share of demand deposits	% Share of time deposits	% Share of short-term loans	% Share of long-term loans
Technically and allocatively efficient banks	15 (38%)	81	80	81	81	31 (55%)	79	81	75	86
Only technically efficient banks	8 (21%)	6	5	3	13	10 (18%)	15	14	16	12
Technically and allocatively inefficient banks	16 (41%)	13	15	16	6	15 (27%)	6	5	9	2
Total	39 (100%)	100	100	100	100	56 (100%)	100	100	100	100

Source: Author's computations.

Conclusion

Turkey's financial reform seems to have succeeded in stimulating commercial banks to take measures aimed at enhancing both technical and allocative efficiency. As a result, the number of efficient banks has increased over time. The following are the main findings of this study:

- i) A comparison of efficiency scores indicates that state banks are more efficient than their private counterparts. This contradicts the thesis which asserts that public ownership is inherently less efficient, at least as far as the Turkish banking industry is concerned.
- ii) Banks have undergone considerable scale adjustment and have thus succeeded in achieving optimal scale.
- iii) The effect of allocative and technical inefficiencies on cost increases is different for private and state banks. While state banks are more vulnerable to allocative inefficiency, the effect of technical inefficiency on cost increases is more noticeable in the case of private banks.

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Comments

Pierre Abou Ezze

The main point argued in Osman Zaim's paper is that the 1980 liberalization of Turkey's financial markets has increased the efficiency of Turkish commercial banks.

In order to assess the effect of liberalization on efficiency, a linear program technique was used to estimate production and cost functions for representative years. Since the results show an improvement in both functions, the paper argues that financial liberalization seems to have succeeded in increasing the efficiency of commercial banks. A few comments need to be made in connection with these findings.

Initially, the methodology used is very appropriate for measuring efficiency at a given point in time. However, the use of depreciation expenditure as a measure of the cost of physical capital is somewhat problematic. Indeed, depreciation based on historical or book values actually distorts the true cost of capital in the case of banks that bought their buildings and equipment at different points in time.

In addition, using this methodology to compare production and cost at two different points in time simply indicates whether production units have become more or less efficient and nothing else. Linking this change in efficiency to factors such as market liberalization is a different matter. Osman Zaim argues that the liberalization of interest rates and new entries into the market forced banks to decrease their costs. However, the number of branches increased by only five percent and employment by only 14.9 percent over the 1981-90 period as compared with a 70 percent increase in branches and a 64 percent rise in employment during the 1972-81 period. The question that arises here is whether the slow increase is the result of financial reforms or simply the end of an overexpansion that took place in the 1970s and which led to an overbanked industry.

Also, the data show that the number of employees per branch increased for the entire banking sector as well as for private banks between 1981 and 1990. As for the number of branches per bank, while the ratio has decreased on average by about nine branches per bank in the case of private banks, it is not clear

whether this decrease has been the outcome of the closure of unprofitable branches or simply the liquidation of some banks at a time when newly-founded ones have not yet opened many branches. As for state banks, the average number of branches increased from 215 to 371 during the 1980s. Hence, it is not quite clear in Zaim's paper just how much of the increased efficiency has been the outcome of financial reforms and how much of it has resulted simply from the consolidation of the banking sector which would have taken place anyway.

Moreover, it would have been helpful to discuss the relationship between the changes in the returns to scale to an average cost curve and to indicate whether there is compatibility between returns to scale and the size of Turkish banks.

Lastly, it seems that private banks have fared better on the production side than on the cost side. While the gap between private and state banks is being narrowed in this regard, the state-to-private ratio of inefficiencies did not change between 1981 and 1990, and this is an issue that the author failed to address in his paper.

Marcel Cassard

Osman Zaim's paper is quite thought-provoking, but some remarks seem in order regarding the choice of model used to analyze the efficiency of Turkish banks. Generally, input/output models tend to measure the efficiency of banks in terms of the ratio of the volume of deposits and loans to a set of inputs, without giving weight to the quality of the loans portfolio of banks, or the concentration of loans to sectors or individuals. These models also fail to address the cost efficiency of banks, which is the spread between lending and borrowing rates; indeed, cost efficiency is an important determinant of the competitiveness of the banking system. Omitting these variables from the analysis does not provide a complete picture of the efficiency of the banking sector in Turkey.

In light of the above remarks, it is hardly surprising that the author should have reached the conclusion that state banks in Turkey are more efficient than their private counterparts. Such a conclusion is not generally supported by the experience of state banks in most countries. However, since the volume of

deposits and loans is an important determinant of efficiency, the conclusion is not surprising; indeed, it can be explained by the fact that state banks have an implicit guarantee from the government which allows them to attract more deposits as well as to make more loans, since they lend to the captive market of state enterprises. Exporters borrow heavily from state banks in Turkey because the government provides subsidies for loans targeted to exports, which again explains the higher volume of loans.

However, a closer examination of the data in Tables 1 and 2 will yield a different picture of the efficiency of state banks in Turkey. For instance, the number of branches per state bank increased from 216 in 1981 to 372 in 1990, while the number of branches per private bank has declined from 148 in 1981 to 138 in 1990. Similarly, the number of employees per state bank increased from 5,677 in 1981 to 10,103 in 1990, while the number of employees per private bank barely increased from 2,590 in 1981 to 2,726 in 1990. Nonetheless, during this period the total assets held by private and state banks remained very close. These measures hardly point to an increase in efficiency on the part of Turkish state banks.

Another conclusion of the paper is that Turkish banks have improved their allocative and technical efficiency. Although this may be true, it remains to be seen why intermediation costs are still so high in Turkey. When one examines the spread between after-tax returns on deposits and effective lending rates, which are a measure of intermediation costs, it is not clear whether or not they have declined substantially during the period under consideration. In fact, the spreads are so high that large corporations bypass local banks and borrow directly on international capital markets. Large effective spreads generally show low operational efficiency. In addition, they lead to an oversupply of banking services as well as to low productivity in making such services available on the market. It would have been interesting to see these differences in efficiency in the Turkish banking system effectively reconciled in Zaim's paper.

5

The Experience of Iran's Islamic Financial System and Its Prospects for Development

Heydar Pourian

Introduction

More than a decade has passed since Iran chose to experience a combination of nationalized and Islamic financial systems. Today, Iran takes pride in the fact that it has had a truly unique experience in Islamic banking and finance in the world.

While the banking system was nationalized soon after the 1979 Islamic Revolution, it took a few years before the important Usury-Free Islamic Banking Law was passed in 1983. Iran's banking system is still evolving, and the public has yet to learn about the new Islamic banking contracts and their related terminology. In fact, a segment of the public questions whether there were indeed changes before and after the revolution with regard to banking practices: Were banking practices really changed to fit the Islamic doctrine, or was the language simply changed to pretend its "Islamization"? On the other hand, most ulema who are familiar with the issue believe that, while the usury-free law is without fault, the inappropriate execution of the Islamic banking law has been the reason for practices to have departed from the spirit of Islamic law.

Regarding the open financial market, despite the election of a new government to office, the stock market has experienced cyclical and structural difficulties since its reactivation in 1989. Furthermore, due to the lack of variety in securities and other shortcomings, this market has remained considerably underdeveloped.

Unfortunately, Islamic banking practices were implemented in Iran simultaneously with several extraordinary events, such as eight years of war; a massive increase in the economic role of the public sector due to expropriations and nationalizations; the economic boycott imposed by the West; and large fluctuations in the price of oil, the exports of which constitute 90 percent of Iran's foreign-exchange earnings. It is the position of this paper that the

simultaneous occurrence of such unusual events, together with the multi-dimensional aspect of the financial system (explained below), contributed to the creation of an economic system in which, for most of the decade, economic indicators such as savings and investment have dropped drastically. Therefore, given the complications associated with the above issues, it is difficult at this time to evaluate the performance of the Islamic banking system *per se* in Iran.¹ Indeed, it is not the purpose of this paper to attempt such an evaluation, and no conclusions will be drawn with regard to the performance of the Islamic banking system in Iran. In fact, the preliminary view of this paper is that Islamic banking practices have not been properly executed, and that the usury-free law has not been given a true test, perhaps due to the lack of political feasibility, which in turn may have been caused by the occurrence of the extraordinary events mentioned above.

Nor is this paper concerned with Islamic economics or Islamic banking, their principles, strengths or shortcomings. Rather, the present descriptive paper has three major goals: to review Iran's experience with an Islamic financial system - the banking sector as well as the securities market - through a statistical representation of select economic and financial indicators; to attempt a preliminary diagnosis of the problems affecting the country's financial system; and to offer a few possible solutions for deepening Iran's money and capital markets. The paper is organized as follows: In the next section a brief history and description of Iran's experience with the Islamic banking system and the implied securities market is presented. Subsequently, the performance of Iran's economic and financial system is reviewed on the basis of several indicators; the paper will then attempt to diagnose the country's difficulties in this regard. In conclusion, some policy recommendations will be made with a view to improving the efficiency of Iran's financial system.

Description of Iran's Islamic financial system

The banking system

Prior to the Islamic Revolution of 1979, the banking system in Iran was composed of about 35 banks and relied on a mixture of government and private institutions - domestic as well as foreign-owned. During the 1970s there was

¹ For a preliminary evaluation of the performance of the banking system in Iran and the problems associated with it from the standpoint of Islamic economics, interested readers can refer to Hedayati (1994b), and Pourian (1994a).

a rapid expansion of the Gross National Product as well as the sources and uses of funds. Our estimates reveal that, on an inflation-adjusted basis, the Iranian economy grew by an average of 8.2 percent per year during the 15-year period prior to the revolution. On the other hand, at its peak, the ratio of Gross Domestic Investment to Gross National Product amounted to about 35 percent.

Almost immediately after the revolution, the Revolutionary Council passed a resolution nationalizing commercial banks. This measure was adopted in June 1979 and stemmed from a number of reasons, including expropriations, capital flight, lack of confidence in the banking system, weak balance sheets, and runs on banks. Shortly thereafter, banks were also "amalgamated."² Hence, Iran's banking system was affected by two kinds of monopolies: on the one hand, fewer but larger banks and, on the other, government control. After the amalgamation and a few years' evolution, the system was reduced to nine banks, comprising six commercial banks and three specialized ones.³

In the early months after the new revolutionary regime was established, several studies were conducted with a view to Islamizing the country's financial system based on the principles embodied in the Sharia, which unequivocally calls for the elimination of interest. Based on these studies and prior to the passage of the usury-free law, interest was (apparently) abolished, and its name was changed to "commissions and minimum guaranteed payment" (Shirazi 1988). It was not until late 1983 that a bill was passed by the Islamic Parliament - the Islamic Consultative Council - and ratified as needed by the Council of Guardians regarding the abolition of interest. This law, which was termed the Usury-Free Islamic Banking Operations Law, is known as the pillar of the Islamic banking system in Iran. It was enforced at the beginning of 1984.

Iranian scholars [for example, Mahdavi (1990), Shirazi (1988), and Pourian (1994a)] claim that the foundations of the Islamic banking system rest on the

² The Usury-Free Banking Law will be discussed in this paper. It is also noteworthy that the Iranian Constitution requires the banking sector to be owned and controlled by the government. It further specifies that all laws must conform with Islamic Law. For a description of other laws related to Iran's banking system, see Hedayati (1994a).

³ A new specialized bank - the Export Expansion Bank - has recently been established, thereby increasing the total number of banks in Iran to ten.

following principles:

- Establishing the sovereignty of Islamic values;⁴
- Eliminating usury (one of the most important instruments to achieve this goal was *qard-al-hasanah* or interest-free deposits and loans);
- Establishing profits in banking operations (banks were considered "trustee agents" in the utilization of funds on behalf of depositors);
- Setting up a deposit system based on new Islamic forms;
- Granting credit facilities according to new Islamic contracts in the "right" (production) direction;
- Applying new monetary policies in accordance with the *Sharia*.⁵
- Securing economic independence and self-sufficiency and establishing a system founded on "social justice."

The primary goals of the new Islamic financial system can also be understood from the new Banking Law itself; thus, to briefly cover the major points of this law: In Article 1, the new law stipulates that the goals of the banking system are to create a monetary and credit system based on rightfulness and justice, as well as to further the economic goals set by the government. It calls for stabilizing the value of money and servicing the domestic payment system as well as the international balance of payments. The law also refers to the importance of *qard-al-hasanah* deposits and loans. In the same Article, the law defines the functions of the banking system (including those of the Central Bank) to encompass deposit and investment functions, issuing and controlling money, monitoring the performance of the system, and conducting monetary policy.

Article 2 covers the mobilization and absorption of funds by the system which allows for interest-free *qard-al-hasanah* deposits (demand and savings deposits), as well as time deposits (which do earn a return). Concerning the

⁴ Interested readers on Islamic economics should consult Sadr (1981); on the philosophical issues relating to the abolition of interest, please refer to Mottahary (1983). On the role of Islamic banking in economic development, see Sadeq (1993). On Islamic banking, see Iqbal and Mirakhor (1987) and Mohsin Khan (1992). On the question of stability of the demand for money in Islamic banking, see Zyuberi (1992).

⁵ On the issue of monetary policy within an Islamic financial system, interested readers should consult Mohsin Khan and Mirakhor (1993), and Shojaeddini (1993).

latter type of deposit, the law stipulates that banks shall serve as an attorney for granting loans out of them. This section of the law also obliges banks to guarantee the payment of principle on *qard-al-hasanah* deposits, and mentions that banks can guarantee the principle on time deposits. It calls for the profit-loss sharing system, and allows for promotions and privileges such as prizes on *qard-al-hasanah* deposits as well as discounts on bank fees. As for Article 3, it sets the new credit facilities or Islamic (loan) contracts to which we shall refer below; it also discourages investing in "luxury" commodities. Article 4 allows for the control of the banking system and the implementation of monetary policy by the Central Bank. It also determines types of investment to be pursued, and sets minimum and maximum levels for banks' profit shares as well as minimum and maximum amounts of credit to be granted by the banking system. In Article 5 the law stipulates that banks, including the Central Bank, are not allowed interest transactions with each other; in addition, it states that collected fees are not for distribution (to deposit holders), and that any other contradictory legislation is hereby repealed.

It may be interesting to note that most ulema believe that the usury-free banking law is without fault [e.g. Rezvani (1993)]. To be sure, there is dissent concerning this issue, and some questions remain regarding the current interest-rate system, especially as practiced by the government and the Central Bank. A few ulema have questioned the practices of the banking system [e.g. Azari Qomi (1993)]. Moreover, current banking practices in Iran require payment of a fixed-rate penalty after the due date for installment payments which, according to most ulema, is not within the framework of the Sharia. The inclusion of an inflation premium in the rate of return also seems to be a point of dissent among ulema [e.g. Haeri (1994)].

Open financial markets

The open financial market in Iran primarily includes a stock market - the Tehran Stock Exchange. Before the revolution, this traded common stocks of corporations and financial institutions as well as three kinds of government bonds (Treasury bills, land-reform bonds, and "ownership-expansion" bonds). Share prices began to drop six months prior to the 10-day revolutionary period, at the end of which the regime was changed. Immediately after the revolution, the volume of trade at the stock exchange dropped dramatically. Indeed, little trade was recorded between 1979 and the enactment of the 1983 Banking Law. After this law was passed, trade in all kinds of securities was practically halted, and no trade was allowed in the bonds section.

The reactivation of the Iranian stock market coincided with the end of the eight-year war against Iraq, the election of a new President to office in 1989, and the enactment of the first five-year plan coupled with the onset of Iran's privatization program. At present, almost all trade is conducted in the common stocks of the firms targeted by the government during the country's privatization program. The public sector, including the investment subsidiaries of the banking system, plays a large role in transactions.

Privatization and liberalization

Furthermore, with the election of a new government to office, new market- and export-oriented policies were drafted. The liberalization program was predicated on increased autonomy for banks; current-account liberalization; attempts in the direction of capital-account liberalization; the establishment of non-bank financial institutions; and interest-rate "adjustments" aimed at accommodating the inflation premium.

As for open financial markets, the Central Bank has recently developed a new "non-common-stock" security called the "shared security" in consultation with a group of ulema, academics and private-sector representatives. This author took part in the advisory group to the Central Bank regarding this new security, and one particular aspect of the process may be of interest to the reader. There was a great deal of concern over the non-fixed rate at which this security was to be issued. The decision was to implement the following procedure, which was then used by the City of Tehran to issue a four-year security for purposes of urban development. Based on a business plan, a tentative rate of return was calculated for the project which amounted to 25 percent per annum. Five percent was held, and each security was issued with six-month, twenty-percent (of par value) coupons attached. The five-percent difference is deferred until the project is completed, at which point a "definite" return may be calculated.

Economic and financial indicators for Iran

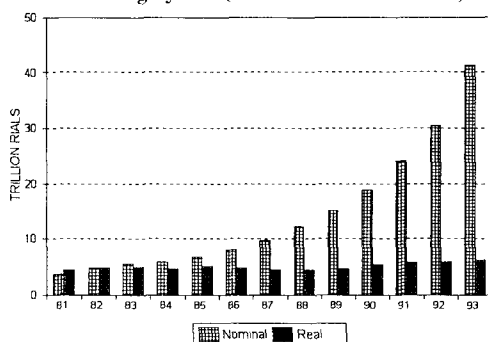
Over the last 15 years since the 1979 Islamic Revolution, Iran has felt the impact of several events, not only the revolution itself, but also the eight-year war with Iraq, economic sanctions imposed by the West, the freezing of Iranian assets, a transitional change in the financial system itself, as well as various economic events, including the transition from a more centrally-planned towards a more market-oriented system, and from a multiple

exchange rate towards a single exchange rate system. Indeed, the simultaneous occurrence of these events has precluded an evaluation of Iran's Islamic financial system in this paper. Therefore, we shall only present a review of the country's basic economic and financial indicators. Subsequently, a diagnosis of the problems will be attempted from a market-oriented perspective.

Deposits and deposit rates

In nominal terms, the banking system has done well in absorbing private-sector deposits. During the last twelve years, this measure has increased tenfold. However, as Figure 1 indicates, the performance of Iranian banks in real terms has been far from impressive.

Figure 1: Private Sector Deposits in the Banking System (Nominal & Real Amount)



As revealed by current practices in Iran's Islamic banking system with regard to deposit profit rates, a tentative rate for each type of deposit is always computed at the beginning of the year by the Central Bank. Such tentative rates are forecasts of the profitability of banks in the same year. In the beginning of the subsequent year, a definite rate for each class of deposit is announced, according to which accounts are then settled. The lower part of Table 1 provides an example of deposit rates for a recent year (1993). However, with inflation running at double digits, institutional-formal rates are negative, which is likely to contribute to the growth of an already-existing informal financial sector in which interest rates may reportedly go as high as eight percent per month. The upper part of Table 1, by contrast, shows deposit rates over the past several years. Year-to-year changes have been rather small, while the inflation rate has been rather volatile, ranging from nine to 35 percent over the past five years.

Table 1. Banking System's Deposit Rates (Percent)

	1989	1990	1991	1992	1993
Short Term	6.0	6.5	6.5	7.5	8.0
1-Year	8.5	9.0	9.0	10.0	11.5
2-Year	-	10.0	10.5	11.5	13.5
3-Year	-	11.0	11.5	13.0	14.5
5-Year	-	13.0	14.0	15.0	16.0

Tentative and Definite Deposit Rates (1993)

Maturity	Tentative	Definite
Short-Term	8.0	8.0
1-Year	11.0	11.5
2-Year	13.0	13.5
3-Year	14.0	14.5
5-Year	15.5	16.0

Source: Iran Banking Institute.

Islamic (loan) contracts, loan rates and their behavior

The design of so-called "Islamic (loan) contracts" was associated to a large extent with the passage of the 1983 Usury-Free Law. This law defined several types of contracts which are currently used by the Iranian banking system. These contracts are very briefly described below.

- An *installment sale* is the transfer of, say, a piece of production equipment purchased by a bank at a known price to an enterprise in such a manner that all or part of the price of the item is received by the bank in installments at fixed dates.
- A *civil partnership* is defined as mixing the capital of a customer with the capital of a bank for the purpose of investing in a specific business for a limited duration.
- A *Modharabah* is an agreement signed between a bank and a (legal) person in order to enter into an investment and jobbing transaction.
- A *Jo'aalah* is an Islamic contract according to which the bank undertakes to pay a specified amount of funds to an enterprise rendering a specific service.

- A *forward transaction* is an advance cash purchase of an enterprise's products at a pre-determined price.
- *Equity participation* may be defined as the injection of capital into new or previously-existing joint-stock companies.
- *Qard-al-hasanah* is defined as the granting of a loan without charge in special cases.
- A *hire purchase* is a lease in which the leasee purchases the financed equipment at the end of the financing term.
- *Direct investment* is defined as the supply of bank capital for operation and production of development.
- A *debt purchase* is defined as the discounting of trade documents and commercial papers of businesses.
- A *Mozara'ah* is a financial transaction between a bank and the owner of a farm.
- A *Mosaga'at* is a financial transaction between a bank and the owner of a tree (and the like).⁶

It would be interesting to examine the behavior of these contracts over the last decade. Table 2 shows the amount and Table 3 the percentage of each contract from 1984 to 1993. Installment-sales contracts have continued to dominate all other classes. Surprisingly, the importance of *qard-al-hasanah* and *mod-harabah* contracts has declined, while that of civil partnerships has increased. According to the rules set for the banking system, the total of *qard-al-hasanah* loans granted by banks must be ten percent of the total of facilities granted in each year (not exceeding the total of *qard-al-hasanah* funds absorbed through *qard-al-hasanah* deposits).

Bank assets and the capital-adequacy issue

In nominal terms, the banking system's asset growth has also been impressive. From 1981 to 1993, as reflected in Figure 2, it has increased by a factor of 15. However, in real terms (using the GNP price deflator), banks' assets had a negative growth until 1988, moving up in the last few years.

The system's capital-to-total-asset ratio also performed poorly until 1990. As

⁶ For a more detailed description of these contracts, interested readers should consult Shirazi (1983), and the Iran Banking Institute (1993).

Table 2. Behavior of various Islamic banking contracts (amount, billion Rials)

Contracts	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Installment Sales	247.5	603.8	990.9	1,675.5	2,454.4	3,532.7	5,469.9	7,668.3	9,947.9	12,486.6
Civil Partnership	109.1	244.1	384.2	539.3	608.7	965.2	1,620.6	2,900.7	3,757.6	4,831.0
Modharabah	134.6	293.6	429.2	491.4	540.3	811.0	1,141.9	1,581.9	1,810.6	2,093.1
Jo'alah	2.4	25.6	37.9	70.9	143.8	384.2	740.2	1,142.9	1,290.8	1,664.7
Forward Deals	26.8	58.8	108.9	151.2	255.3	505.0	588.6	809.0	1,424.2	1,924.2
Equity Partnership	26.0	135.8	182.2	276.7	371.6	435.4	509.9	785.0	1,107.7	1,321.3
Qard-Al-Hasanah	78.4	199.1	321.4	411.9	507.5	564.5	639.8	682.0	775.8	1,288.7
Hire Purchase	27.9	37.3	51.8	83.0	98.8	106.7	125.0	232.2	232.5	393.6
Direct Investment	4.4	65.9	74.4	64.3	67.5	97.6	143.5	211.8	409.0	726.4
Debt Purchase	85.0	186.2	176.5	120.3	52.6	41.9	32.0	16.6	20.4	27.1
Other Contracts	1.7	21.6	46.2	70.4	135.3	168.9	229.6	394.6	751.1	1,202.4
Total	743.8	1,871.8	2,803.6	3,936.9	5,256.8	6,713.1	11,241.0	16,425.0	21,527.6	27,959.1

Source: The Central Bank.

Table 3. Distribution of Islamic Banking Contract (Percent)

Contracts	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Installment Sales	33.3	32.3	35.3	42.6	46.7	46.4	48.7	46.7	46.2	44.7
Civil Partnership	14.7	13.0	13.7	13.7	11.6	12.7	14.4	17.7	17.5	17.3
Modharabah	18.1	15.7	15.3	12.5	10.8	10.7	10.2	9.6	8.4	7.5
Jo'alah	0.3	1.4	1.4	1.8	2.7	5.0	6.6	7.0	6.0	6.0
Forward Deals	3.6	3.1	3.9	3.8	4.9	6.6	5.2	4.9	6.6	6.8
Equity Partnership	3.5	7.3	6.5	7.0	7.1	5.7	4.5	4.8	5.1	4.7
Qard-Al-Hasanah	10.5	10.6	11.5	10.5	9.7	7.4	5.7	4.2	3.6	4.6
Hire Purchase	3.8	2.0	1.8	2.1	1.9	1.4	1.1	1.4	1.1	1.4
Direct Investment	0.6	3.5	2.7	1.6	1.3	1.3	1.3	1.3	1.9	2.6
Debt Purchase	11.4	9.9	6.3	3.1	1.0	0.6	0.3	0.1	0.1	0.1
Other Contracts	0.2	1.2	1.6	1.8	2.6	2.2	2.0	2.4	3.5	4.3

can be seen in Figure 3, this ratio declined from five percent in 1980 to about 0.5 percent in 1990. Afterwards, mostly due to the revaluation of assets, this ratio has improved; at present it is estimated at about four percent.

Capital investment, savings and the I/GNP ratio

The amount of funds channelled into gross private domestic investment over the past several years (from national income accounts) is shown in Figure 4. Investment performance started to improve only after the end of the Iran-Iraq war and the election of a new government.

However, the performance of savings (from a survey of families) remains unsatisfactory. The savings ratio reached a negative 42 percent in 1989. One should note that there seems to be a severe problem with the definition of income and expenses in these surveys.

Figure 5 shows the ratio of gross investment to gross national product. By this measure, the financial system has also performed poorly. Our current estimate of this ratio is about 17 percent. At its peak two years before the revolution, it was about 35 percent.

The exchange rate

The behavior of the free-market exchange rate (in US dollar terms) reveals a continuous depreciation of Iran's national currency. Figure 6 shows the depreciation of the Iranian Rial since the revolution.

Liquidity growth, inflation, and unemployment

Figure 7 shows the performance of liquidity (as measured by M2). The inflation and unemployment rates are shown in Table 4. These measures raise concerns about the control of the money supply and the resulting adverse effects of inflation on other economic variables.

Difficulties in Iran's financial system

As mentioned before, Iran has faced several extraordinary circumstances since the 1979 Islamic Revolution, such as large-scale nationalizations and expropriations; substantial capital flight; brain drain; the freezing of its foreign assets; selected sanctions against Iran's exports and imports; an eight-year war against Iraq; large fluctuations in its main source of foreign-exchange earnings, oil;

very high population growth (about 3.5 percent per annum); shifts in economic policies, including the switch in 1989 from an ineffective import-substitution policy to an equally ineffective export-promotion policy; and the implementation of structural-adjustment programs which included attempts to rationalize the price system, reduce budget deficits, cut subsidies, launch privatization, and move towards a single exchange rate regime.

Table 4. Inflation and Unemployment Rates

Year	Inflation Rate	Unemployment Rate
1990	9.6	14.4
1991	19.6	13.4
1992	21.6	11.4
1993	30.0	11.0
1994**	36.0	11.2

Source: The Central Bank and the Plan and Budget Organization.

Note: Inflation is measured by retail prices.

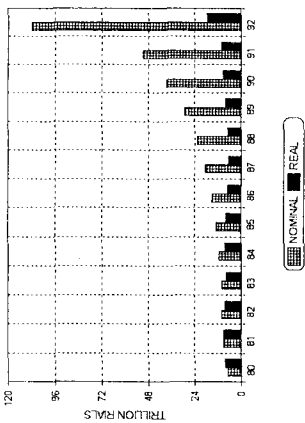
**Estimates for the first half of 1994 are the author's.

From another perspective, Iran's financial system is a multi-dimensional system in which at least the following dimensions can be identified: an evolving Islamic financial system; a banking system which was nationalized due to the unavoidable consequences of the revolution; a financial system still in its preliminary stages due to the developing-country status of the nation; a largely bank-based (as opposed to securities-based) system; a repressed financial system; and a traditional "bazaar" financial system characterized by a large informal sector.⁷

The aforementioned extraordinary events and the multi-dimensional aspects of Iran's financial system have given rise to multi-faceted problems requiring a conservative approach for their diagnosis. Nevertheless, the current state of Iran's economic and financial systems makes it imperative to present a diagnosis - albeit crude - of such problems. Therefore, an attempt is made on the following pages briefly to identify the difficulties afflicting the Iranian banking system as well as its open market.

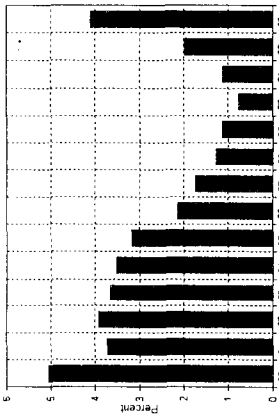
⁷ For a description of some of these financial dimensions, systems, and sectors, see World Bank (1988), and Pourian (1993).

Figure 2: Banking System's Assets
(Nominal & Real Amounts)



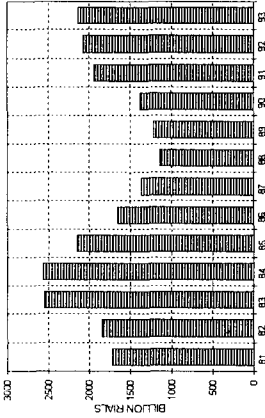
Sources: Plan & Budget Organization and Central Bank.

Figure 3: Banking System's Capital to
Total Assets Ratio



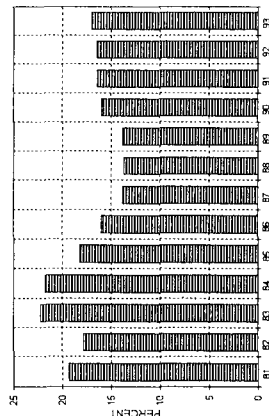
Sources: Plan & Budget Organization.

Figure 4: Trends of Investment (Real Amounts)



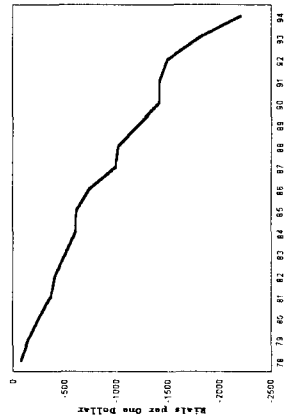
Sources: The Central Bank.

Figure 5: Investment to GNP Ratio
(Nominal Amounts)



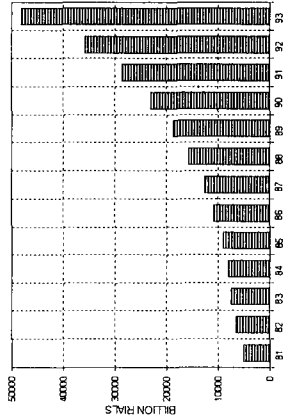
Sources: The Central Bank; 1992-93 estimate by author.

Figure 6: History of Foreign Exchange in Iran



Sources: Tiplan & Budget Organization; Iran Center for Technical Information; and sampling by the author.
Note: Free market rates are shown.

Figure 7: Trends of Liquidity



Sources: The Central Bank.

The problems of Iran's banking system

Iran has a repressed Islamic financial-institutional system characterized by several problems and difficulties. First and foremost, the banking sector operates under a nationalized system in which credit allocation is administered largely through an inefficient planning process. Attempts have recently been made to abolish credit ceilings, but progress in this direction has been slow. In addition, negative real bank rates are rigidly controlled by the Central Bank, which curtails the flow of funds to the formal banking sector and fuels the growth of an informal financial sector. The financial system in Iran is such that competitive forces are non-existent, and non-bank financial institutions (perhaps with the exception of nationalized insurance companies and pension funds) virtually do not exist. In terms of financial personnel, bank employees, who are paid and managed poorly, have no incentive to increase their productivity and seem insensitive to customer satisfaction.

Within the context of structural-adjustment programs, and as far as macro-economic policy-making is concerned, industry officials often complain about the banking system being too inflexible and contractionary in its credit policies. In response, officials in charge of Iran's economic and financial systems blame Iranian industries for their inflexibility. Currently, a rising inflation rate is occurring simultaneously with the deterioration of the financial condition of Iranian firms.

Moreover, the public in Iran has yet to form a clear picture of Islamic (loan) contracts and their related jargon. Indeed, most Iranians do not seem to believe that the country's banking system is usury-free as officially claimed.⁸

The problems of Iran's stock exchange

Likewise, Iran's undeveloped open financial markets also face several difficulties. For instance, until recently only the issuance of common stocks was allowed within the context of Iran's capital market. As a result, there is a scarcity of securities, and the investment pyramid for portfolio management is incomplete. In addition, political and legal risks dictate a large risk premium on common stocks, which would suggest large fluctuations (in response to new information), as well as depressed trend values.

⁸ For a survey of public opinion on this issue, see Mesbahi (1994).

Furthermore, the lack of clear management in Iran's stock exchange (which is a private organization virtually under the control of the Central Bank) has generated serious obstacles to the government's privatization program as well as eroded public confidence. Hence, in order to avert a crisis and for the sake of "protecting" values, the prices of securities are "controlled" both by the stock exchange and by Central Bank authorities.

In addition, Iran's unsuccessful and slow-moving privatization program has defeated expectations about the swift development of a securities market in the country. Similarly, the flow of accounting, micro and macroeconomic information is quite deficient, thus hampering the quick decision-making required in an efficient open-market system.⁹

Summary and policy recommendations

Over the last 15 years several extraordinary events have affected Iran's economy, such as large-scale nationalizations and expropriations, capital flight, sanctions against Iran's exports and imports, and eight years of war. On the other hand, Iran's financial system is multi-dimensional, including an Islamic financial system, a nationalized banking system, a largely bank-based system, and a repressed financial system. While no evaluation of the Islamic banking system has been attempted in this paper, it is true that the concomitant occurrence of such extraordinary difficulties and the multi-dimensional nature of Iran's financial system have nonetheless created a highly inefficient financial system. On the question of what needs to be done, one can recommend a wide array of policies from the perspective of both financial development [see World Bank (1988)] and efficient-market theory [for example, Fama and Miller (1972)].

Recommendations for financial institutions

Rather than being administered through a macro-oriented planning process, the allocation of credit should be left at the discretion of the banking system in granting loans based on microeconomic reasons as well as on the country's comparative advantage. Alternatively, an industrial policy should be developed and funds allocated according to pre-designed programs. Moreover, in order to increase the flow of funds to the banking sector, bank rates should be

⁹ For a description of other problems related to Iran's stock exchange and capital market, see Pourian (1994b).

increased gradually so as to eliminate the current negative real interest rates which fuel the growth of the informal financial sector.

Furthermore, increased attention should be paid to public relations in the banking system and the Central Bank, especially in explaining the various Islamic banking contracts currently in use, and serious attempts should be made to increase customer satisfaction. In addition, a merit system should be developed in the spirit of entrepreneurship in order to increase bank employees' motivation and productivity.

Recommendations for open financial markets

The issuance of securities other than common stocks (such as specially-tailored Islamic convertible bonds) should be allowed so as to alleviate the scarcity of securities; this measure would enhance the methods of financing available to corporations (private as well as government-owned), and would also complete the "investment pyramid" for portfolio management. To the extent possible, signals implying lower political and legal risks should also be given in a uniform manner by the three branches of government (Executive, Legislative, and Judicial).

Additionally, the control exercised by the stock exchange on the prices of securities should be abandoned, in tandem with the announcement, establishment, and strict implementation of a comprehensive program for privatization with a schedule lasting several years. Also, the establishment of private investment banks should be allowed as well as encouraged, together with improvements in the flow of accounting, micro and macroeconomic information.

Recommendations for supervision and control

The Iranian Central Bank should focus on the primary reason for its existence - the conduct of monetary policy; accordingly, supervision of the banking system and other financial institutions should be dissociated from the Central Bank and given to a new independent agency. In order to isolate the Central Bank from the political process, it may be necessary to consider the issue of making it independent. Also, the low capital-asset ratio requires immediate attention; luckily, recent reports show that this ratio has improved.

Furthermore, the management of Iran's privately-owned stock exchange

should be improved, and its control by the Central Bank lessened. The supervision of the stock exchange needs to be conducted by a newly-established securities commission rather than the Central Bank.¹⁰

Guidelines for financial liberalization

In order to increase the efficiency of the system, competition needs to be promoted in the banking sector, which would most likely suggest moving towards the privatization (and Islamization) of financial institutions in Iran. Increasing the efficiency of Iran's financial sector (banks, non-banking financial institutions, and the stock exchange) is also important for the success of other government plans and programs, including privatization. In addition, the Central Bank should speed up the establishment of non-banking financial institutions.

Within the context of structural-adjustment programs, Iran needs to strike an admittedly delicate balance between the development of its industry and its restrictive credit policies. The sequence of liberalization needs to start with basic macroeconomic stabilization programs and credit controls.¹¹ It may also be necessary to opt for a gradual implementation of liberalization so as to avoid the financial crises which can occur in any financial liberalization process.

This paper draws to a close by reiterating, once again, that the analysis presented above was not meant as an evaluation of the performance of Islamic banking principles *per se*. Indeed, since Islamic banking arguably has yet to be given a true test in Iran, the inappropriate performance of some of the country's economic and financial indicators reported here is not intended as a negative answer to the important question, "Can the Islamic financial system survive?"

¹⁰ This recommendation was written by the author and is reflected in the Second Plan Bill, which at the moment of writing is being considered for ratification by the Iranian Parliament.

¹¹ For discussions regarding the sequence of liberalization and the gradual approach, see Cho and Khatkhate (1989), and Bisat et. al. (1992).

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Comments

Abbas Mirakhor

The past decade has seen a surge of interest in the analytic and operational aspects of Islamic banking both inside and outside Muslim societies. Aside from the fact that three countries in the Islamic world, namely Iran, Pakistan and Sudan, have adopted Islamic financial systems, a relatively large number of Islamic banks, financial institutions and transactions have emerged all over the world. Additionally, recognizing the market potential of Islamic finance, an increasing number of banks and financial institutions in the West have started to provide portfolios, transactions and instruments that are essentially non-interest based.

In his paper, Dr. Pourian seeks to analyze the impact of the Islamic financial system on economic developments in Iran. The task of the paper is greatly complicated by the large-scale structural changes undergone by the Iranian economy during the period under study. Having emerged from a protracted conflict with Iraq, Iran embarked on a process of reconstruction and economic liberalization at a time of significant changes in the external environment. Hence, analyses of recent developments in Iran - particularly in relation to its financial sector - need to isolate the impact of these exogenous factors from those associated with the Islamic system *per se*. Since such an analysis lies outside the scope of Dr. Pourian's paper at this stage, the remainder of my comments will review some of the basic issues concerning the analytics of and challenges faced by Islamic banking.

The viability and feasibility of non-interest-based financial transactions, instruments, institutions and systems, as well as the legitimacy of academic research in this area, are no longer questioned by serious and objective observers. Given that until the late 1970s and early 1980s the concept and modes of transactions that could avoid the use of interest rates as the central balancing mechanism between the supply of and demand for financial resources were virtually unknown, particularly in the West, the speed of growth of interest-free financial institutions, instruments and transactions has been impressive. Equally important has been the growth of scholarly interest in the subject. Considering that three decades have passed since the first Islamic bank, Mit Ghamr, began its operations in Egypt, and that ten years have passed since the first country, Iran, adopted a complete Islamic financial

system, it seems appropriate at this point to take a brief look at the concept, operation and challenges of Islamic banking.

The analytics of Islamic banking

There is now a general consensus (but not unanimity) among Muslim *fuqahas* and economists that the prohibition against *riba* extends to interest, and that banking systems in Muslim countries violate this prohibition if they allow the use of the interest rate mechanism. At least four characteristics define the prohibited interest rate: it is fixed *ex ante*; it is tied to the time period and the amount of the loan; its payment is guaranteed by the borrower regardless of the outcome of the transaction for which the money was borrowed; and the state apparatus sanctions and enforces its collection. One implication of this prohibition is that it virtually eliminates all debt financing and debt instruments as they exist in conventional banking. To replace them, the *Sharia* holds the view that individuals have a wide freedom of contract. Therefore, the contracting parties are free to engage in any transactions not prohibited by the *Sharia*. This flexibility makes possible a virtually open-ended menu of various modes of financial transactions, instruments and contractual forms so long as contracts do not contain any element of *riba* and/or *gharar*. The latter can operationally be said to exist if one (or both) of the contracting parties is in possession of some information regarding the subject of the contract and withholds that information from the other party. Incidentally, this definition brings the concept of *gharar* close to the notions of asymmetric information and moral hazard of contract theory.

Historically, Muslim *fuqahas* (with few exceptions) did not define a priori the various methods of *riba*-free transactions available today. The practice was that the contracting parties would decide on a particular mode, and the *fuqaha* would then rule on its permissibility. Muslim economists often insist that, in order to become Islamic, a banking system must replace the interest rate mechanism with a profit-sharing mechanism. This is, of course, only the economist's inference. The position of the *Sharia*, as stated earlier, is that any transaction is permissible so long as it does not contain any element of *riba* and/or *gharar*. It thus follows that it may be possible to develop a variety of nonprofit-sharing methods of financial transactions that meet the basic requirement of the *Sharia*. A prime example is the method of *Qard al-Hassan*; other methods include, among others, *Morabaha* and *Salaf* transactions. Hence, from the perspective of Islamic law a financial system is not

rendered un-Islamic if it operates primarily or even mostly with nonprofit-sharing modes as long as these satisfy the requirements of the *Sharia*. This is a very important point, because many of those who criticize the current practices of Islamic banks contend that many of the transactions conducted by these banks, such as *Morabaha*, installment sales and the like, are not profit-sharing methods, and that these transactions resemble or are in effect the same as interest-based transactions. While the latter may be true (installment transactions, for instance, may indeed resemble interest-based transactions), the fact is that the former are sanctioned by the *Sharia*, whereas interest-based transactions, which may produce identical results, are not.

From an economic point of view, it is clear that a financial system that operates primarily with a profit-sharing mechanism has advantages that are not obtained in a system which, albeit compatible with the *Sharia*, operates mostly with nonprofit-sharing methods. The most important drawback in the latter type of system is that it does not have - or perhaps has not yet developed - ways of promoting long-term investments and thus concentrates mostly on short-term and trade transactions. While one bank operating on this basis may not have a discernible impact on the economy, a total system operating along these lines can do considerable damage to the economy's growth and development process.

Over the last decade, analytic investigations of the conceptualization of Islamic banking as a system in which the assets and liabilities of banks are acquired on a profit-sharing basis have given rise to important propositions. Briefly, such a system has been shown to bear a number of characteristics. First and foremost, the real values of assets and liabilities would be equal at all points in time. In addition, the prospect of instantaneous equilibrium between the asset side of the banking system - driven mainly by the real sector of the economy - and the liability side means that there must necessarily be a close relationship between investment and deposit yields. Also, since the return to liabilities of the banking system is a direct function of the return to the asset portfolio of the system, and since assets are created in response to investment opportunities in the real sector of the economy, it is the real sector that determines the rate of return to the financial sector rather than the reverse.

Furthermore, in an Islamic financial system the adjustment to shocks leading to banking crises and disruptions in the country's payment mechanisms is faster than in the conventional system. There will also be no disruption in the

intermediation process of the banking system, nor is there any reason to believe that the savings and investment process will be impaired. Indeed, savings and investment need not decrease, and if the rules of the *Sharia* regarding contracts - including full disclosure requirements - are observed, both will increase.

Moreover, monetary policy can be effective in stabilizing the economy, and this has been shown in both closed and open economy models. In an open economy context, to the extent that external resources mobilized through profit-sharing models are channelled to productive investments, such investments can be expected to generate a stream of returns at least sufficient to repay the associated external liabilities. Also in an open economy context, there will be two-way capital flows; that is, there is no reason to expect only capital outflows, since net results will depend on the difference between domestic and external rates of return.

In sum, from a theoretical standpoint, there is no reason to suggest that Islamic banking or Islamic financial institutions cannot fulfill the basic tasks required of any financial intermediary or system. Indeed, it is possible to argue that, under certain circumstances, their performance may be better.

Operational challenges and prospects

Practice and theory both show that Islamic banking is viable, and that the conversion of an entire financial system along Islamic principles will not lead to the system's collapse as some had predicted. Indeed, experience has shown that Islamic banks are powerful means of mobilizing resources.

Operationally, however, both the Islamic financial system in the three countries that have adopted it and individual Islamic banks face challenges that need to be addressed. The most important among these is the fact that, while it has been relatively easy to create a system in which deposits do not bear interest, the asset portfolios of Islamic banks do not contain sufficiently strong components that are based on profit sharing. The two main reasons are the lack of a legal and institutional framework providing for appropriate contracts as well as mechanisms to enforce them, and the lack of adequate menus with a broad range and variety of maturity structures for financial instruments.

Hence, a relatively strong risk perception has been associated with profit-sharing methods in particular and Islamic banking in general. This, in turn,

has led to the concentration of the asset portfolios of Islamic banks on short-term and trade-related assets, with adverse consequences for investment and economic development. The problem has been exacerbated by the fact that Muslim countries, as is the case in much of the developing world, suffer from lack of deep and efficient capital and money markets that can provide the needed liquidity and safety for existing assets. The absence of suitable long-term instruments is mirrored in the lack of very short-term financial instruments. At present, for example, there is no equivalent of an inter-bank market where banks could place, say, overnight funds, or where they could borrow to satisfy temporary liquidity needs.

Both the theory of Islamic banking and the rapid expansion of Islamic banks in recent years have demonstrated the feasibility of non-interest-based operations. This must be surprising to those who believed that banks and financial systems could not operate in a modern economy without reliance on the interest rate mechanism. By and large, Islamic banking has worked reasonably well, but it does face challenges. Nonetheless, nearly all of these challenges are technical in nature and can be met as long as sufficient resources are committed to this task. For instance, developing a suitable menu of *Sharia*-compatible financial instruments is a technical problem that can and will be solved. There is no reason to believe that financial engineering cannot span the existing menu of assets in order to create a much larger variety of instruments with different maturity structures to serve the needs of the market. The rapid growth of emerging equity markets in the developing countries is a very hopeful sign that in the next decade much of the existing institutional and technical bottlenecks that may have hampered the efficient operation of Islamic banking will be removed. Similarly, the degree of risk perception surrounding profit-sharing modes can be reduced through the creation of legal institutions that embody Islamic injunctions covering property rights and contracts.

Abdullah El-Kuwaiz

The paper by Heydar Pourian is useful in shedding light on the internal functioning of the Iranian economy in general, and the banking system in particular. Highlighting the Iranian experience in the area of Islamic banking is very important to the Middle East, where the idea holds a special attraction.

The study covers the period following the 1979 Islamic Revolution, when

major changes took place in Iran simultaneously, such as the raging war with Iraq; economic sanctions; the freezing of Iranian assets abroad; interruptions in oil production coupled with a decrease in both demand and price; the fluctuation of the US dollar; and the interruption of the nation's development program. To be sure, these factors have rendered the researcher's task all the more difficult.

Bearing in mind the above constraints when reviewing Dr. Pourian's paper, I would like to mention some points related to his otherwise impressive research. First, in view of experiences to the contrary, it remains to be seen whether it is indeed necessary to nationalize banks in order to Islamize them. Secondly, it is mentioned that the paper will look into economic and financial indicators for Iran. Although the author does address financial aspects of Iran's economy, some major economic indicators are missing, such as the country's GDP, national income, and its balance of payments.

Thirdly, the paper defines the Islamic contract, its related tools, and presents statistics in Table 3 relating to the latter's behavior in the eight-year period ranging from 1984 to 1991. These definitions and statistics are quite enlightening, but it would perhaps have been more useful to expand them and compare them with the practices of Western banks and Islamic institutions in other countries.

Fourthly, a comparison is made between loan rates and deposit rates, and the author concludes that these loans were subject to "large" interest rate subsidies; but that begs an important question: Who is paying for these subsidies? In addition, there is a short paragraph based on Figure 2 which compares credits of specialized institutions with those extended by commercial banks. This paragraph serves no particular purpose in the paper unless it is accompanied by an explanation of the activities of specialized institutions in relation to Islamic banking.

It is rather alarming to know that the capital adequacy of Iranian banks has dropped from five percent to 0.5 percent at a time when international attention is focused on increasing it to a minimum of eight percent. However, two points should be taken into account in this regard: first, the fact that these banks have been nationalized; and second, that the calculations should include risk weights attached to the assets of banks.

It is also mentioned in the paper that, in spite of a nominal sixfold increase in deposits over ten years, these deposits have nonetheless dropped in real terms. The author concluded, therefore, that the performance of Iranian banks was poor. Before reaching such a conclusion, though, it would have been more accurate to compare deposits in relation to GDP and/or national income. The paper subsequently presents "difficulties of Iran's financial system"; indeed, it would have been more helpful to elaborate further on these "problems" or "difficulties", perhaps in light of the experience of other countries. Moreover, the paper recommends the issuance of convertible bonds without specifying whether these bonds are usury-free or tied to the profitability of projects.

There are at least two approaches to the supervision of banking: by the Central Bank or through an independent commission of separate institutions. The author advocates the latter, but experts have yet to reach a consensus on this particular matter. Furthermore, the paper does not touch upon the international side of banking activities. In particular, it fails to explain how Iranian banks and the Iranian Central Bank have dealt with interest on the international market. Also, the paper fails to address the strategy pursued by the Iranian Central Bank when conducting monetary policy under Islamic law. This is an area where a great deal of research remains to be done, according to Mosim Khan and Abbas Mirakhor in their 1991 paper on Islamic banking.

6

Le Financement des Entreprises: Marché Financier ou Crédit Bancaire?

Abderrafia El-Bakkali

Introduction

La période de crise économique qui remonte pour la plupart des économies aux deux chocs pétroliers, a engendré une pénurie de ressources et des problèmes d'endettement particulièrement aigus pour des environnements non occidentaux. Une des conséquences de cette situation a été un regain d'intérêt pour les problèmes de financement de l'économie.

En effet, avec l'aggravation de la crise, les systèmes des principaux pays industrialisés ont répondu par la déréglementation, la désintermédiation et le mouvement de titrisation.¹ Ce mouvement, qui repose principalement sur les valeurs traditionnelles de la libre entreprise et recommande de laisser jouer les mécanismes du marché, s'est traduit dans ces pays par la création d'une quantité impressionnante de nouveaux produits et d'instruments de financement qui ont eu des profondes répercussions sur les méthodes de gestion financière des entreprises. Ceci laisse entrevoir l'émergence d'une nouvelle logique de choix d'investissement, exigeant au préalable un véritable arbitrage entre investissements productifs et placements financiers.

L'évolution récente des économies occidentales a donc remis à l'ordre du jour le rôle du marché financier, tant en ce qui concerne l'ajustement général de l'épargne à l'investissement qu'en ce qui concerne l'allocation optimale des ressources. Cet accent mis sur la politique "saine" de financement de l'économie, basée essentiellement sur la finance directe, où le marché est censé être le seul régulateur, implique nécessairement une épargne disponible. Dans ce contexte, les intermédiaires financiers - conformément à la théorie de Gurley et Shaw (1973) - sont des partenaires des autres agents économiques sur le marché des titres.

¹ Ch. De Boissier, "Mutation et Fragilité des Systèmes Financiers", dans *Revue Française d'Economie*, No. 1, 1987.

Cette transformation du paysage financier dans les pays industrialisés - qui offrent des possibilités nouvelles de placements et de financements cohérentes avec les conventions d'une économie de titres négociables - a suscité un intérêt indéniable dans certains pays en développement et constitue, par là-même, la base des interventions des organismes internationaux, notamment le Fond Monétaire International et la Banque Mondiale. Avec la crise, les facilités antérieures d'endettement externe des pays en développement se sont extrêmement rétrécies et les conditions d'accès aux ressources se sont durcies progressivement au fur et à mesure de l'aggravation de la crise.² Ce problème de financement externe s'est accentué récemment avec la chute du mur de Berlin, où la zone des pays de l'Est fait l'objet d'une attention toute particulière de la part de la communauté financière internationale.

Pour répondre à ce nouveau contexte, les pouvoirs publics des principaux pays en développement, sous l'égide des organismes internationaux, ont entamé une série de réformes dans le but de restaurer la logique du marché, jugée comme capable d'accroître l'efficacité du système financier. Rappelons que cette stratégie financière de développement, qui met l'accent sur une reconsidération des politiques de mobilisation des ressources intérieures, trouve sa source dans les travaux de McKinnon (1973, 1981), qui accusent la répression financière qui sévit dans les pays en développement d'être à l'origine de la mobilisation insuffisante de l'épargne et, par conséquent, d'affecter le processus d'ajustement du stock de capital à son niveau désiré. En somme, les tenants de cette thèse qui ont gagné de nombreux disciples au sein des économistes des pays en développement plaident pour une libéralisation financière dans tous les domaines: prix, réglementation des changes, etc.³ En d'autres termes, c'est l'entrée dans un "cercle vertueux" du développement qui sera provoquée par cette libéralisation financière. Il faut noter que cette approche de McKinnon, qui présente la promotion de l'épargne comme un moyen grâce auquel le développement économique prendra toute sa signification pour l'ensemble de la société, doit beaucoup à la contribution majeure de Gurley et de Shaw, dans leur célèbre ouvrage écrit en 1960 (*Money in a Theory of Finance*), où le rôle des intermédiaires financiers dans le développement de l'épargne se trouve au centre de leur analyse.

² El Quorehi, "La Conditionnalité du FMI", Thèse de Doctorat, Université Paris X, 1987.

³ P. Chenguelly, "La Répression Financière: Le Cas des Pays Arabes", Thèse d'Etat, Université Paris X, 1984.

En effet, la théorie actuelle des circuits de financement externe et, en particulier, le rôle des institutions financières dans le processus épargne-investissement s'inspire très largement de la thèse présentée par Gurley et Shaw. Selon cette théorie, les besoins exprimés par les prêteurs ne correspondent pas à ceux des emprunteurs. Le rôle des institutions financières consiste alors à harmoniser des différences disparates, en mettant des titres qui correspondent aux désirs des agents à besoin de financement. Pour ces deux auteurs, les institutions financières bancaires ou non bancaires ne créent pas de fonds prêtables; le système bancaire, comme tous les autres intermédiaires, est un "courtier de fonds prêtables". C'est la règle de l'unité des intermédiaires financiers qui selon Gurley et Shaw doit être la toile de fond de la théorie d'intermédiation financière. C'est à partir de ce schéma que l'on a voulu, pendant longtemps, expliquer le mécanisme de création monétaire, en admettant que le système bancaire prête au fur et à mesure qu'il reçoit des dépôts. En d'autres termes, la causalité va du passif à l'actif: les dépôts font les crédits.

Il apparaît ainsi que, quelle que soit la façon d'aborder le problème de financement de l'économie, force est de constater que les théories dominantes de financement (finance directe et finance indirecte), abordent ce problème en termes d'amélioration de la capacité de collecte de l'épargne et d'éventuelle transformation des ressources d'épargne par les intermédiaires financiers. Dans tous les cas, le financement sur ressources préalables est privilégié. Il n'est donc pas fait place à l'utilisation du crédit sur ressources monétaires comme fondement du financement externe des entreprises. Cette ignorance délibérée du crédit bancaire, commune à la plupart des modèles keynésiens et monétaristes qui ont servi de substrat théorique, à un moment ou à un autre, aux politiques économiques effectivement appliquées dans les différents environnements économiques, trouve son application dans l'approche de la théorie financière de l'entreprise, où l'expression "structure du capital" ne semble inclure uniquement que des sources de fonds qui sont représentées par des valeurs mobilières (actions et obligations).

Là-dessus, les approches sont controversées et différentes, essentiellement sur l'existence d'une structure optimale de financement des entreprises. En effet, à la suite des travaux de Miller et Modigliani (1958), le problème de la structure optimale du capital se résume à un choix entre le coût et le risque, l'effet de levier incitant l'entreprise à accroître son endettement, le risque financier venant tempérer cette tendance. Cette analyse précise la rationalité nécessaire à toute décision financière. Le coût du capital constitue le fondement de l'al-

location optimale des ressources financières de l'entreprise. Autrement dit, ne recourt à l'endettement que si elle en tire un bénéfice. Le problème sera alors abordé, tout au long de l'histoire de la pensée économique, en termes de productivité marginale du capital (les classiques), puis en termes d'efficacité marginale du capital avec Keynes et, enfin, en termes de profitabilité, avec Malinvaud.⁴

Il semble donc légitime de s'interroger sur la validité de ces analyses, ayant pour référence commune les notions de marché, d'épargne et de rationalité économique, lorsqu'elles s'appliquent à des environnements économiques où les marchés sont étroits, voire inexistants, et où les institutions financières non bancaires, susceptibles d'émettre des substituts de la monnaie, sont rares. Seules existent les banques commerciales bien concentrées et quelques organismes financiers spécialisés, principalement publics, qui détiennent le monopole en matière de mobilisation de l'épargne locale et le financement de l'activité économique. Par conséquent, la monnaie est le principal actif financier en raison de sa fonction de moyen de paiement, et le crédit bancaire est la forme principale de financement.

C'est là la problématique dont nous essayerons de débattre pour le cas précis du Maroc, où d'une part, les banques commerciales constituent l'ossature du système financier et sont en principe les seules à être en contact avec les utilisateurs et les épargnants primaires.⁵ D'autre part, le financement externe et notamment bancaire des entreprises se présente comme un facteur incontournable dans l'étude des contraintes financières auxquelles sont soumises les entreprises marocaines. Afin de cerner ces questions, il nous paraît nécessaire de présenter de façon très schématique l'état des lieux théoriques de la question financement des entreprises. C'est au travers de cette analyse qu'apparaîtra l'apport essentiel de la distinction entre financement intermédié et financement par le marché.

⁴ E. Malinvaud, "Capital Productif, Incertitudes et Profitabilité", *Annales d'Economie et Statistique*, No. 5, 1987.

⁵ Au Maroc il n'y a pas de réseaux d'épargne indépendant de celui de la Caisse d'Epargne Postale.

Les fondements analytiques du crédit bancaire comme mode de financement des entreprises

Trois modes de financement fondamentaux coexistent dans les économies contemporaines. D'une part, l'autofinancement ou la finance interne permet à chaque entreprise ou unité économique de dégager sur sa propre activité les ressources nécessaires à son financement, en évitant ou en limitant l'appel aux ressources du système financier. D'autre part, le financement externe apporte à l'autofinancement un complément parfois marginal et parfois décisif sous les deux formes classiques: la finance directe et la finance indirecte.

Historiquement, ces trois modes de financement sont apparus de façon progressive et dans un ordre chronologique, qui a permis l'émergence successive d'un régime d'autofinancement, puis de la finance directe et, enfin, de la finance indirecte. Aujourd'hui, chaque système de financement national combine ces trois composantes avec une pondération et une articulation spécifique qui permettent à la fois de situer son stade de développement et de présenter les grandeurs caractéristiques de son comportement économique. En conséquence, une approche positive de la finance de l'entreprise exige la prise en compte des influences que l'entreprise subit du fait de ses propres caractères, mais aussi du fait des caractères inhérents au système financier dans lequel elle se trouve insérée.

Ces considérations indiquent sans trop d'équivoque le cadre théorique emprunté par le présent travail. Nous soutenons, en effet, que s'il existe un déterminisme de la structure de l'actif liée à la technologie employée, la structure du passif reste une caractéristique propre à chaque système de financement.

Ebauche d'une nouvelle approche de la finance de l'entreprise

L'éclairage que nous avons sur le comportement du financement des entreprises nous est donné par la théorie financière qui adopte une optique normative et s'attache à énoncer des règles universelles d'analyse et de comportement.

En général, les formulations théoriques relatives à la finance de l'entreprise qui ont pris leur essor aux Etats-Unis posent le problème de financement des entreprises en termes de détermination de politique optimale. Elles présentent

une analyse des relations qui prévaudraient au niveau d'un marché financier "idéal", où les agents s'efforceraient d'atteindre un maximum de satisfaction dans le cadre de parfaite concurrence. Soulignons que l'importance de l'auto-financement des entreprises américaines autorisée par les conditions de partage du surplus monétaire et le développement des marchés de capitaux justifient cette attitude. Aussi dans ces modèles, l'expression "structure du capital" n'inclut que les sources de fonds qui sont représentés par les valeurs mobilières "action et obligation". Ce faisant, ils évacuent de l'analyse l'auto-financement et le crédit bancaire. Rappelons que, traditionnellement, les théories monétaires et financières macro-économiques ont éludé ces questions, en s'appuyant exclusivement sur la logique des modalités d'allocation des ressources par le marché de titres.

Cela dit, la question la plus débattue par la théorie financière est celle de la répartition optimale du financement entre capitaux risqués et non risqués. C'est là l'objet du vieux débat sur la structure du capital qui a donné lieu à diverses controverses qui ne sont pas encore apaisées. Observant cependant que, même s'il n'existe aucun véritable consensus entre les partisans et les adversaires de l'existence d'une structure optimale du capital, cela ne les empêche pas de s'accorder sur la référence à la maximisation de la valeur de l'entreprise. La richesse de l'actionnaire apparaît comme un élément intégrateur de la finance.

C'est dans ce cadre que s'inscrit le ratio "q" de Tobin (1969),⁶ comme d'ailleurs le modèle d'équilibre des actifs financiers *Capital Asset Pricing Model* qui rassemble et synthétise l'ensemble des travaux les plus récents de la théorie financière moderne. Ces modèles se situent dans le droit fil de l'analyse néoclassique, dont ils permettent le prolongement et l'application à l'équilibre sur le marché des actifs financiers. Toutes les décisions visant à l'allocation efficiente des ressources sont prises en fonction de la norme financière du coût du capital.

Il y a lieu de remarquer qu'au delà des critiques d'ordre général relatives aux

⁶ Les analyses contemporaines de l'effet du coût du capital s'appuient largement sur le ratio "q" de Tobin, qui met en relation la valorisation financière au moyen de la bourse, du capital physique et de son coût de remplacement. Voir V. Reiffers de Gournay, "Une Remise en Cause des Déterminants de l'Investissement: Le Rôle du 'q' de Tobin sur la Période 1972-1991 en France", dans *Documents de Travail, CDC, N. 1992 - 32/T*, Novembre 1992.

hypothèses des modèles classiques (maximisation du profit), néoclassiques (maximisation de la valeur boursière), ou ceux issus de la théorie managériale (maximisation d'une fonction d'utilité bâtie à partir du profit), c'est le principe même d'un choix de financement optimal qu'il convient de rechercher qui est en cause. Cette constatation ne signifie pas que l'apport de la théorie financière dominante est négligeable. Elle conduit simplement à s'interroger sur l'adéquation de cette théorie et de ses prolongements actuels avec un financement intermédié qui s'est progressivement imposé dans certains environnements économiques. Avec le recul du temps, il est devenu évident que ces théories sont relativement cohérentes dans le cadre des économies où le marché des titres négociables est dominant. En revanche, elles doivent être sérieusement amendées dans les économies où les titres de créances ne sont pas négociables sur le marché. Or, la détermination des mécanismes de fonctionnement du "marché" du crédit, qui est un cas type de concurrence imparfaite, diffère considérablement des analyses ayant pour référence commune les notions de marché efficient et de rationalité des agents.

On sait bien qu'à partir du moment où l'on introduit la subjectivité des comportements, l'ajustement par le marché perd une part importante de sa signification. C'est au travers d'une négociation bilatérale entre la firme et la banque à laquelle elle s'adresse que s'établissent les conditions du financement. C'est leur comportement propre qui est pris en considération, et non leur simple appartenance à l'une des deux entités abstraites que sont l'offre et la demande. Soulignons que la notion même du marché est discutable, dans la mesure où le prix du crédit n'équilibre pas les quantités offertes et demandées. La demande de crédit ne sera pas forcément accordée, en raison des comportements de rationnement et d'encadrement des distributeurs de crédit. En ce sens, on peut dire que les firmes ne peuvent optimiser leur endettement auprès des banques. L'accès aux crédits se fait non pas aussi longtemps qu'il y a des projets rentables au taux d'intérêt du crédit, mais aussi longtemps que l'endettement reste en deçà d'un certain ratio de structure financière.

Cette constatation met en évidence que le niveau de l'autofinancement n'est plus jugé en relation à une analyse rétrospective de rentabilité, mais en liaison avec le comportement des banques qui modulent leurs en fonction des mises propres de l'entreprise. On se trouve ainsi ramené au problème de la hiérarchisation des objectifs de l'entreprise, où l'actionnariat apparaît comme une contrainte à laquelle il convient d'assurer un taux minimum. La politique de

l'entreprise est alors orientée vers la recherche de l'équilibre entre autonomie et croissance. Il s'agit donc d'une logique de maximisation de pouvoir que décrivent mal les modèles d'optimalité basés sur une logique de maximisation du profit. Ces remarques n'ont pas pour objectif de remettre en cause le concept de marché. Elles entendent surtout à mettre en évidence les limites du domaine de validité des théories dominantes, qui sont fondées exclusivement sur le rôle des marchés de titres, dans la recherche de l'optimum financier. Cela revient à constater que les questions posées à la finance de l'entreprise se présentent en termes singulièrement différenciés, selon l'environnement financier dans lequel l'entreprise est insérée.

Or, le système financier présente dans la plupart des pays des formes d'organisation typiques plus ou moins spécifiques. C'est ce que suggère l'idée avancée dans les travaux visant à établir une typologie des systèmes financiers. Cette question est d'importance à partir d'une intuition de John Hicks.⁷ Pour la première fois, le mode de financement des entreprises détermine le classement des économies: soit en économie de marchés financiers, soit en économie d'endettement. Il s'agit d'un classement qui détermine à son tour le type de politique monétaire qui se rattache à chaque cas de figure.

Economie de marchés financiers et économie d'endettement

A partir d'une distinction opérée par l'économiste anglais Hicks, il a été développé au cours des années 1970 une typologie opposant de façon dichotomique les économies de marchés financiers et les économies d'endettement.⁸

Schéma d'économie de marchés financiers

Dans ce schéma, les marchés de capitaux très intégrés sont ouverts à tous les agents économiques au sens de la comptabilité nationale. Il s'agit d'un cadre dans lequel les entreprises financent leur investissement prioritairement par le recours à leur épargne réalisée (autofinancement). A cela s'ajoutent des moyens de financement externes, issus pour l'essentiel de titres longs (actions

⁷ J.R. Hicks, *The Keynesian Economics*, Oxford, Blackwell, 1974.

⁸ Ce type d'analyse qui a à peine vingt ans a trouvé un écho notamment chez les économistes français Ch. De Boissier, "Economie d'Endettement, Economie de Marchés Financiers et Taux d'Intérêt", dans *Keynes Aujourd'hui: Théories et Politiques*, Etudes coordonnées par A. Barrère, *Economica*, 1985; et Levy-Garboua, "Notes sur les Taux d'Intérêt dans une Economie d'Endettement", dans *Formation et Rôles des Taux d'Intérêt*, *Economica*, 1982.

et obligations) qu'elles émettent sur le marché financier et qui sont souscrits par les agents à excédents de liquidités, notamment les ménages. Le crédit bancaire joue un rôle marginal dans le financement des entreprises dans ce schéma de la finance directe. Les banques elles-mêmes ont une structure de bilan qui fait apparaître en portefeuille une importante composante en valeurs mobilières. Le marché financier est, dans ces conditions, un vaste marché où le taux d'intérêt est le taux d'équilibre des fonds prêtables. Dans ce cas de figure, la transmission des impulsions de la politique monétaire se fait généralement au marché ouvert.

Force est de constater que les enseignements traditionnels de la politique monétaire cadrent parfaitement avec ce contexte dans lequel, par les actions indirectes (action par les taux), les autorités atteignent des résultats escomptés.

Schéma d'économie d'endettement

Par rapport aux comportements financiers observés dans les économies de marchés financiers, l'économie d'endettement a cette particularité d'être un système dans lequel le financement des entreprises s'oriente peu ou pas vers le marché financier, mais se réalise grâce au crédit bancaire. Les banques ont elles-mêmes une structure de bilan où les crédits (actif) et les dépôts (passif) sont prépondérants. Dans ce contexte, où la capacité de financement interne des entreprises est relativement faible, le crédit bancaire apparaît comme une solution de substitution à un marché financier étroit, et où les titres émis par les entreprises sont peu abondants. Au principe de la finance directe se substitue donc celui de la finance indirecte, qui fait de l'intervention des banques une nécessité absolue.

Finançant l'investissement, les banques se trouvent, après consolidation de leur bilan, globalement déficitaires sur le marché interbancaire. Le recours au refinancement de la Banque Centrale apparaît comme une nécessité qui conditionne le fonctionnement de l'appareil financier et la réalisation des équilibres macro-économiques. Une économie d'endettement, à un premier niveau, est donc une économie dans laquelle les entreprises non-financières ne trouvent pas auprès des ménages le complément nécessaire au financement de leur investissement, et sont obligées de recourir, à cet égard, au crédit bancaire.

Le deuxième niveau vient de ce que le système bancaire, dans sa globalité, est endetté vis à vis de la Banque Centrale. Dans la mesure où le niveau d'activ-

ité de l'économie est dépendant en partie du volume du crédit offert, il est très difficile à la Banque Centrale de refuser, ou même de limiter, ses interventions. Elle se trouve contrainte d'entériner une situation de création de monnaie à un niveau qui lui échappe. Rappelons que dans une économie de marchés financiers, la demande de refinancement des institutions financières structurellement déficitaires trouve contrepartie sur le marché interbancaire. Si intervention de la Banque Centrale il y a, elle répond davantage à des objectifs de politique monétaire, selon que les autorités veulent réduire ou augmenter la liquidité bancaire.

Dans le système d'économie d'endettement, où la contrepartie la plus importante de la masse monétaire est le crédit à l'économie, le contrôle de la masse monétaire passe par le contrôle direct du crédit. Ainsi, à une politique monétaire par taux d'intérêt et liquidité bancaire interposée se substitue une politique par les quantités. Cet état de fait n'autorise qu'une gestion administrée de financement de l'économie, tant au niveau de la détermination des taux qu'à celui du volume de crédit distribué.

Les économies réelles sont naturellement situées au milieu des deux cas polaires que nous avons étudiés, mais certaines sont plus proche de l'économie de marchés financiers. C'est le cas des États-Unis, où les crédits bancaires représentaient, dans les années récentes, moins de dix pour cent du passif des entreprises. En revanche, d'autres économies sont plus proches de l'économie d'endettement. Tel est le cas de la France et du Japon, au moins jusqu'au milieu des années 80. L'appel au crédit dont il est question ici est un appel à l'intermédiation financière, non pas comme une transformation des échéances - conformément à la théorie de Gurley et Shaw - mais véritablement comme la création de moyens de paiement qui anticipent le produit. Dans ces conditions, l'épargne n'est plus qu'une grandeur déterminée. L'investissement peut être bloqué par un manque de liquidité, mais il ne peut jamais être bloqué par manque d'épargne. Le crédit bancaire permet donc d'abolir la contrainte de fonds prêtables. Il compense l'effet dépressif de l'épargne des ménages.

Les limites et les conditions de l'expansion tiennent aux nécessités de vérification de solvabilité de ceux qui font promesse de paiement. Tout manquement à cette règle induit la faillite du système de crédit. En fait, les considérations de risque et de degré d'information, ainsi que les besoins de liquidité des prêteurs, peuvent limiter l'octroi de crédit supplémentaire. La prise en compte d'une telle situation interdit de considérer que le marché du crédit

obéit aux mêmes règles de fonctionnement qu'un marché Walrassien (Jaffee et Stiglitz 1990). Sans remettre en cause les principes de rationalité des agents économiques, l'exclusion des emprunteurs potentiels risquant de ne pas rembourser les sommes empruntées se présente comme la stratégie la plus rentable pour les banques. Signalons que le rationnement du crédit (Jaffee et Modigliani 1969) est inhérent à la régulation monétaire dans une économie d'endettement. Ce phénomène permet de comprendre la relative rigidité des taux d'intérêt et le caractère structurel de la situation d'excès de la demande dont souffre le marché du crédit.

Cette analyse en termes d'économie d'endettement que l'on vient de caractériser brièvement a pour principal mérite d'avoir montré comment le financement externe des entreprises commande un type de formation de l'équilibre du système monétaire. Faute de saisir cette base réelle, on peut appréhender le mode de financement externe des entreprises dans une économie d'endettement comme un choix alternatif de techniques de financement, alors qu'il s'impose comme nécessité fonctionnelle. C'est pourquoi il nous semble que cette approche marque une étape importante dans les recherches récentes menées pour intégrer le fait financier et échapper au cadre théorique dominant dans lequel se trouvent, sans doute, les tenants de la rationalité maximatrice qui articulent la politique financière de l'entreprise sur la logique du marché financier. Ce constat nous interpelle et nous oblige à poser la question de savoir à laquelle de ces deux configurations s'applique, ou du moins s'adapte, le fonctionnement d'une économie en développement, en l'occurrence, le cas du Maroc.

Les traits généraux du système de financement Marocain⁹

Il est bien connu que les spécificités des structures productives et financières des pays en développement - en particulier l'insuffisance de l'autofinancement et les contraintes attenantes au développement du marché financier - rendent le financement de la croissance de l'entreprise par recours partiel ou total au crédit bancaire inévitable. La question posée est de savoir en quoi il était inadéquat, pour ne pas dire nocif, d'utiliser le schéma dominant pour expliquer le fonctionnement de l'économie marocaine, qui présente des similitudes avec le cas de figure suggéré par le professeur John Hicks.

⁹ Pour plus de détails, voir Abderrafia El-Bakkali, Thèse d'Etat, "Financement Monétaire des Entreprises", Université Paris X, 1984.

Les principales caractéristiques du système financier Marocain

Traditionnellement, le système financier marocain se caractérise par un rôle marginal de la finance directe, tandis que la finance intermédiée occupe une place prépondérante dans le financement de l'économie, notamment dans le secteur formel. En remontant à la source, trois causes essentielles sont à l'origine de cet état de fait.

D'une part, malgré un niveau modeste des revenus, les ménages se sont constitués une épargne non négligeable placée sous forme liquide et peu risquée. Comme le montre le tableau ci-dessous, les dépôts auprès des banques et, dans une moindre mesure, ceux auprès de certains organismes financiers placés ou non sous la mouvance du Trésor (Centre des Chèques Postaux et Caisse d'Epargne Nationale) ont été préférés aux valeurs mobilières de placement. Cela a fortement contribué à limiter le développement du marché.

Tableau 1. Dépôts Bancaires

	1988	1992
Dépôts auprès des banques inscrites	72%	73%
Dépôts auprès des organismes financiers	2%	4%
Dépôts et placements auprès du Trésor	13%	11%
Billets de trésorerie	5%	3%
Marché boursier*	8%	9%

Source: Tableau construit à partir des rapports de la Bank Al-Maghrib.

* Y compris les émissions du Trésor et des entreprises publiques et semi-publiques.

D'autre part, les entreprises marocaines, formées dans leur immense majorité d'unités économiques à dimension modeste, rencontrent des difficultés à générer une épargne suffisante pour assurer le financement de l'investissement nécessaire à leurs activités. Ce problème de rentabilité est renforcé par un déséquilibre financier lié à une sous-capitalisation, en raison du caractère traditionnellement fermé et familial des entreprises marocaines.

Enfin, la combinaison d'un niveau modeste des fonds propres, d'un marché financier très étriqué, et la préférence par les ménages des placements liquides a engendré l'essor et la prépondérance d'une structure de financement et de placement indirects très prononcée.

Ce constat apparaît, dans sa grande tendance, validé par l'observation du rapport crédits bancaires/PIB. Ce ratio traduit assez fidèlement le développement de ce marché, qui a amoindri, au plan quantitatif, le rôle joué par les circuits de financement non bancaire. Ainsi, la part de l'intermédiation bancaire dans le financement de l'économie s'élève à 25 pour cent du PIB en 1992, contre 13 pour cent pour les organismes financiers, et seulement un peu plus de trois pour cent pour le marché boursier. Force est de constater que, au Maroc, le marché financier - et en l'occurrence le marché boursier - ne contribue que de façon très marginale au financement de l'économie nationale. On dénombre actuellement 68 sociétés cotées à la Bourse de Casablanca. Un chiffre très faible, surtout en comparaison avec celui enregistré par certains pays en développement souvent cités comme modèle de développement économique. C'est le cas, par exemple, de la Malaisie (282 sociétés cotées en bourse), de la Corée du Sud (668 sociétés), de la Thaïlande (240 sociétés), et de Taiwan (200 sociétés cotées).

L'ensemble de ces observations confirme que le système financier marocain est dominé aujourd'hui, comme il l'était dans le passé, par le financement intermédié et notamment bancaire. C'est en outre un système extrêmement concentré, cloisonné et relativement concurrentiel.

La contrainte de refinancement de la Banque Centrale

Cette évolution n'aurait pas été à la base de quelques interrogations si le système bancaire équilibrerait facilement son bilan par recours à des liquidités trouvées en contrepartie de titres détenus et facilement négociables sur le marché. Les banques commerciales, vu leur importante activité de crédit (plus de 50 pour cent du total du bilan en 1992) et leur participation obligée à la souscription des effets publics (30 pour cent du total du bilan en 1992), sont structurellement emprunteuses et sont obligées de se refinancer auprès de la Bank Al-Maghrib.

Le marché monétaire, pour des raisons tenant tant à l'importance des concours de la Banque Centrale qu'au nombre très restreint d'intervenants, ne ressemble que d'assez loin à l'idée que l'on peut se faire d'un marché sous son aspect économique d'auxiliaire de la politique monétaire, dont il est la courroie de transmission en direction de l'économie. Autant dire que l'équivalent d'un véritable open market n'existe pas au Maroc. Si l'on considère la situation qui a fini par prévaloir de nos jours, le marché monétaire dans son compartiment interbancaire (sous tutelle de la Caisse de Dépôts et de Gestion et du Crédit

Populaire) ne constitue qu'une source de financement mineure. Les offres des institutions financières structurellement excédentaires ne suffisent pas à répondre à la demande des institutions structurellement déficitaires. L'écart structurel observé entre l'offre et la demande de monnaie centrale traduit l'endettement des banques vis à vis de la Banque Centrale.

Dans un tel contexte, l'exercice de la politique monétaire dite "d'action sur la liquidité" tend à être limité, ou du moins à être tenu de prendre des formes qui contrarient le libre jeu du marché. Obligée d'assurer la liquidité du système, la Banque Centrale peut difficilement maîtriser le refinancement qu'elle met à la disposition des banques. Ce refinancement du système bancaire par la Banque Centrale s'opère à travers deux moyens. Le premier est une procédure qui fonctionne de façon automatique, soit à taux préférentiel (huit pour cent) mais uniquement pour les effets privilégiés (crédits à l'exportation et crédits à moyen et long terme aux PME), soit à taux pénalisateurs pour certaines avances spéciales. Le second met en oeuvre le principe des adjudications contre effets publics sur le marché monétaire.

Ces deux modes de refinancement du système bancaire ont totalisé en 1992 en moyenne de fin de mois 4,2 milliards de dirhams, soit huit pour cent des crédits distribués par les banques, contre 1,487 milliards de dirhams pour le marché interbancaire. Ces chiffres montrent clairement que le marché "Banque Centrale" et son corollaire l'escompte constituent le moyen de refinancement principal. Or, ces modalités particulières de couverture du déficit font appel dans une large mesure à des mécanismes hors marché.

Ce qui différencie le mode de concours de la Banque Centrale par le biais du marché de celui de l'escompte c'est que le marché monétaire vit au jour le jour, en attendant que soit annoncé le taux d'intervention de la Banque Centrale. Il s'en suit que l'offre de refinancement de la Banque Centrale s'exprime uniquement par le taux, la quantité accordée étant fixée par la demande bancaire. Autrement dit, faute de pouvoir faire varier le taux du marché en resserrant ou en élargissant sa liquidité à l'image de l'open market, la Banque Centrale fixe elle-même le taux de ses concours. On retrouve ici l'un des éléments constitutifs de l'économie d'endettement. Cet endettement des banques auprès de la Banque Centrale trouve son assise dans l'endettement des entreprises auprès du système bancaire. Il est maintenant chose courante de lire dans des rapports émanant des organismes autorisés que les pressions exercées sur la distribution du crédit tiennent en partie à l'insuffisance des fonds propres des

entreprises ainsi qu'au faible développement du marché des capitaux.

En 1991, le Ministère du Commerce et Industrie avait agréé 3,268 projets industriels d'un montant de 11 milliards de dirhams, soit l'équivalent 21 pour cent de la formation brute du capital fixe au niveau national. Le mode de financement s'est fait essentiellement par les fonds propres pour 48 pour cent, et les crédits bancaires pour 43 pour cent; le reste est couvert à part presque égale entre le leasing et les crédits fournisseurs. Tout semble indiquer que le financement externe des entreprises marocaines est articulé sur le crédit bancaire. Il en sera ainsi tant que les données du financement des entreprises, et notamment leur rentabilité, imposeront ce mode de financement.

Le crédit octroyé aux entreprises par le système bancaire se retrouve dans l'actif du bilan de ce dernier et constitue l'une des contreparties de la masse monétaire. A la suite de la suppression du contrôle quantitatif du crédit en janvier 1991, cette contrepartie est redevenue le moteur principal de l'accroissement de la masse monétaire. Ainsi, en 1992 les crédits à l'économie représentent 43 pour cent des contreparties de la masse monétaire, contre 35 pour cent pour les créances sur le Trésor.

Ce rapide survol qui vient d'être fait montre clairement que les deux conditions inhérentes aux économies d'endettement se trouvent vérifiées pour le cas du Maroc. Le système devrait donc être appréhendé au travers d'une analyse en termes d'économie d'endettement.

Les effets pervers de l'imitation du schéma de l'économie de marchés financiers

Les conditions inhérentes aux économies d'endettement - l'endettement du secteur productif envers les banques et le refinancement contraint de ces dernières auprès de la Banque Centrale - se trouvent vérifiées pour le cas du Maroc. Or, l'efficacité de ce système a été entravée, non seulement par le comportement irrationnel des banques, mais aussi par la conduite des autorités, tant en termes de décisions que d'action. Les conséquences sont importantes, et on peut énumérer les principales.

Tout d'abord, au travers d'une analyse du cadre institutionnel et réglementaire, on peut déceler que l'existence d'un centre de décision public important agissant directement ou par voie réglementaire fait du système bancaire un auxil-

iaire de l'administration. En effet, si les banques restent maîtresses de leur risque, elles ne sont pas totalement libres d'accorder leurs concours. Une partie importante des ressources est dirigée dans le sens où la puissance publique le juge conforme à l'intérêt général. On est bien obligé de reconnaître que les banques, faisant plus une politique de distribution du crédit qu'une politique de crédit, ne peuvent pas avoir le comportement de monitoring qu'elles auraient dans un système plus libéral. Rappelons que le système financier français a hérité cet avantage informationnel de sa tradition d'économie d'endettement. Ensuite, la politique monétaire effectivement appliquée n'opère pas le choix entre les deux grandes catégories d'action. Elle applique simultanément les actions directes et indirectes sans intégrer dans sa préoccupation le cadre institutionnel très particulier mentionné ci-dessus. La raréfaction du crédit n'a pas contribué à relancer l'activité boursière ni suscité le développement des activités financières hors banques tel que les billets de trésorerie ou le crédit interentreprises. Aussi, malgré une modification toujours en hausse des taux d'intérêt débiteurs, les crédits à l'économie augmentent continuellement. Comment en serait-il autrement dans une économie qui n'offre pas aux entreprises des solutions alternatives par rapport à celles proposées par les établissements de crédit?

Ceci tend à montrer que l'endettement bancaire des entreprises marocaines est une contrainte structurelle, et non une variable stratégie comme le laisse à penser la théorie financière. Cela est d'autant plus vrai que la dette est à court terme au regard de ce que pourrait être une stratégie d'endettement. En effet, si dans les pays développés les crédits à moyen terme constituent la part prépondérante dans l'offre de crédit des banques, au Maroc la part de ces derniers est nettement en retrait - elle ne représente en moyenne que dix pour cent du total des crédits distribués par les banques.

Le système bancaire marocain octroie essentiellement des crédits à court terme, afin de réduire le risque financier. Ce faisant, il oblige les entreprises à affecter ces crédits au financement des investissements. Cette transformation qui s'opère au sein du système productif crée des difficultés de trésorerie et de rentabilité aux entreprises, en raison de la différence entre le rythme de remboursement des crédits et le moment où la formation du capital fixe débouche sur un accroissement de la production.

Signalons encore que ce mode de financement n'est pas très développé en ce qui concerne les petites et moyennes entreprises, dont les garanties de remboursement sont trop aléatoires pour convaincre les banques à entretenir un courant

d'affaires avec ces firmes. Les banques rationnent le crédit et recherchent davantage l'assise financière de l'emprunteur que le potentiel de croissance ou de profitabilité des projets. Un tel comportement favorise encore plus l'élargissement du secteur informel.

Conclusion

Cette analyse à laquelle nous venons de nous livrer montre bien que, pour l'essentiel, si on n'arrive pas à maîtriser les difficultés du financement des entreprises, c'est parce que le schéma économique que nous utilisons est conçu pour une économie de marchés financiers. Il est donc temps qu'on adopte la conduite dictée par la réalité telle qu'elle est, et non pas telle que l'on voudrait qu'elle soit.

Il est certes souhaitable que le financement des entreprises soit fondé sur des bases plus stables, par l'accroissement simultané de l'autofinancement et des créances négociables. Or, il est assez connu, pour diverses raisons tenant pour l'essentiel à la faible productivité des entreprises et des contraintes liées au niveau et à la dispersion des revenus, et à leurs incidences sur les comportements financiers des ménages, qu'il y a peu de chances que des résultats tangibles soient obtenus dans ce domaine - en tout cas, pas dans un avenir immédiat. On doit donc admettre que le financement monétaire des entreprises conservera, par la force des choses, un rôle considérable.

Il faut prendre garde à ne pas décourager l'investissement privé par la diminution d'une source de financement aussi importante que le crédit bancaire. L'investissement est en soi créateur de capacité, et de son niveau dépend le volume des biens utilisables dans l'économie.

Nous savons aujourd'hui que la véritable menace pour les économies occidentales réside dans le ralentissement non du rythme de l'épargne, mais du rythme de l'investissement. Il faut cependant se garder de l'illusion que la plupart des difficultés peuvent être surmontées uniquement par le recours au crédit bancaire. Aussi, il existe des limites au delà desquelles la surabondance de liquidité risque de provoquer des désordres dans le courant des échanges et dans la formation des revenus. C'est pourquoi nous ne craignons pas de répéter: si les restrictions monétaires sévères et aveugles sont à proscrire, il n'en reste pas moins que le laxisme monétaire est un moyen le sûr de contrarier à terme le développement économique.

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Comments

Mohamed El-Erian

The present paper contains a wide-ranging, interesting, and provocative analysis of corporate financing, with special emphasis on Morocco. The issue is addressed on the basis of an approach stressing two factors: first, enterprise indebtedness to the banking system; and second, commercial bank relations with the Central Bank. This approach is contrasted to that based primarily on the role of retained earnings of firms supported by capital market financing.

The paper views bank credit as the main instrument for covering the gap between firms' own-generated resources and their investment financing requirements. It stresses the role of the Central Bank in refinancing commercial banks. This function is viewed as essential to the economy's investment performance, thereby downplaying the role of traditional open market operations in the arsenal of monetary policy management instruments. In addition, the paper favors the use of quantitative credit instruments, as opposed to those based on indirect monetary control. Applying this approach to the case of Morocco, the paper notes that the absence of sufficient revenue generation and the narrowness of capital markets enhance the causal relationship running from bank credit to investment. Overall, Dr. El-Bakkali raises some important points about the financial sector. However, several issues warrant further consideration and revision.

The paper rightly points to financial reform as a key ingredient of the policy challenges now facing the authorities in many developing countries, Morocco included. The banking system is identified as serving an essential role, being the main vehicle for the mobilization and allocation of loanable funds. These two points, however, are not sufficient to support the argument running throughout the paper concerning the importance of relaxing the quantitative constraint on bank credit as a means of encouraging investment. Indeed, while there is some recognition in the paper as to the need to strike an appropriate balance between the different objectives of credit policy, excessive emphasis is placed on its utilization as an instrument to encourage private investment. Five main factors may be cited in support of the concern regarding Dr. El-Bakkali's analysis. These factors also call into question the practical application of the paper's characterization of the financial system and the desired policy implications.

First and foremost, the theoretical conditions for a strong linkage between credit and efficient investment activities are numerous and impinge greatly on the factors influencing the enabling macro and microeconomic environment. These factors need to be considered carefully before credit policy is put forward as both necessary and sufficient to encourage higher investment. Secondly, the risks of increasing financial imbalances are considerable, as demonstrated by the experience of several developing countries, especially in the late 1970s and throughout the 1980s. Indeed, even if the role of credit in facilitating investment is satisfactorily established, this does not mean that policymakers can ignore the other aspects of the policy instrument, particularly its role in supporting a sound and sustainable macroeconomic environment. In addition, as the literature has demonstrated - including the often-quoted work by Stiglitz and Weiss as well as Hasan Ersel's paper on Turkey (see Chapter Three) - relaxing the quantity constraint on banks through more liberal Central Bank policies need not necessarily lead to higher flows for investment activities. There are significant problems related, *inter alia*, to information, moral hazard, and adverse selection.

Moreover, the paper too easily rules out the potential role of bond and equity markets as well as external sources of financing. In fact, the experience of Morocco itself clearly illustrates how external funding on appropriate terms can facilitate investment and growth. Finally, the central key issue remains the productivity of the firms. This determines not only their creditworthiness, but also their ability to generate their own resources for investment; bypassing this through bank credit does not provide the conditions for sustainable investment and growth. In sum, several factors need to be further analyzed in order to shed light on whether the type of credit policy advocated by Dr. El-Bakkali is either necessary or sufficient for sustainable investment growth.

7

Emerging Equity Markets in Middle Eastern Countries

Mohammed El Erian and Manmohan Kumar

Introduction

Several developing countries have succeeded in recent years in attracting considerable external private inflows, thereby providing an important supplement to domestic savings in financing productive investment activities. When compared to other episodes of large private capital flows to developing countries in the last 20 years, the phenomenon differs in one basic aspect: the dominant role of foreign portfolio flows as opposed to bank financing. Indeed, it has been part of a broader process of internationalization and integration of capital markets. Overall, this process has contributed to large voluntary financial flows from industrial to several developing countries, a surge in some developing countries' placement of equities in industrial country markets, and increased institutional linkages - including mergers and strategic alliances - between financial firms in industrial and developing countries.

The process of development of equity markets and their integration with international capital markets is less advanced in most Middle Eastern countries, especially when compared to economies in Latin America and Asia. Yet, capital markets provide an important instrument for mobilizing resources - from domestic, regional and international sources - and for allocating them to productive investments. The need to exploit the potential offered by capital markets assumes greater importance in view of the possibility of downward pressures on development assistance to the capital-scarce countries in the region, as well as greater international competition for foreign direct investment. It is also consistent with the emphasis currently being placed increasingly in the region on the private sector as the main engine for investment and growth.

The aim of this paper is to review the status and role of equity markets in selected Middle Eastern countries. To this end, the paper explores the potential benefits of these markets - both direct and indirect. These include the availability of a larger pool of investible capital, as well as positive external-

ities in the form of enhanced access to market-based hedging instruments, larger foreign direct investment inflows, and expanded export market opportunities. Attention is also drawn to the implications for economic and financial policies, including the challenges associated with capital market integration with industrial countries.

The paper is organized as follows: The introduction is followed by a broad framework developed for interpreting the current phase of private flows to developing countries. Within this framework, the paper will then undertake a comparative analysis of markets in six capital-scarce Middle Eastern countries (viz., Egypt, Iran, Jordan, Morocco, Tunisia, and Turkey).¹ The analysis is based primarily on a range of quantitative indicators including market capitalization and concentration, price earnings ratios, price volatility, and the extent of correlation with industrial country markets. It also identifies the main differences within the selected set of markets and relative to international comparators, and examines the associated structural factors. This is followed by a quantitative analysis of the efficiency of selected markets in the region. Given the severe data limitations, the discussion must be viewed as tentative at this stage. Nevertheless, it provides a basis for the subsequent review of policies for enhancing the role of equity markets in the macroeconomy of Middle Eastern countries. The paper concludes with a summary of the main findings.

The process of capital market internationalization and developing countries

Foreign capital provides a supplement to domestic savings for financing productive investment activities. As such, the appropriate use of foreign capital has the potential to enhance growth and development. Foreign capital may be said to be used efficiently if it is associated with activities whose rate of return equals or exceeds the annual cost of "servicing" the inflows.

The fulfillment of this condition requires the satisfaction of two related criteria - yield and transfer. The yield criterion refers to the return obtained on the

¹ In line with the coverage of the Economic Research Forum, Turkey is included in the broad definition of Middle Eastern countries. Other active regional equity markets include Bahrain, Kuwait, Israel, and Oman. Although there are no formal stock markets in Saudi Arabia and the United Arab Emirates, equity transactions take place through the banking system. The establishment of equity markets is under consideration in Lebanon, Sudan, and Syria.

financed activities, whereas the transfer criterion refers to the ability to transform the returns into foreign exchange to meet contractual obligations. Meeting these two related criteria implies that the foreign exchange equivalent of the marginal return on the borrowed funds exceeds the value of the servicing. Non-fulfillment of these criteria results in the debt-servicing capacity falling short of debt-servicing obligations, thereby leading to liquidity and/or solvency problems.

The main sources of foreign capital available to developing countries have traditionally included commercial bank loans (voluntary and concerted), bonds, foreign direct and portfolio flows, as well as official bilateral and multilateral assistance. Notwithstanding this range of sources, certain types of flows have tended to dominate in particular periods - particularly in the case of private flows. Indeed, as discussed below, the environment for external private inflows currently facing developing countries is dramatically different from that prevailing in the 1970s and 1980s.²

Background discussion on the nature of private flows to developing countries

In contrast to the 1990s, the external private financing environment faced by developing countries in the 1970s and 1980s was dominated by activities related to international commercial banks. Specifically, the 1970s and early 1980s were characterized by large flows to developing countries in the form of voluntary commercial bank loans, mainly through syndications. These loans declined sharply with the onset of the debt crisis triggered by Mexico's August 1982 announcement that it was unable to meet scheduled debt service obligations. Several other developing countries followed suit shortly thereafter.

The associated debt crisis reflected the growing imbalance between contractual obligations and countries' servicing capacity as a result of inappropriate domestic policies and unfavorable exogenous factors (including adverse terms of trade, higher international interest rates, and sluggish external demand conditions). These factors resulted in a decline in the ability of countries to meet the related yield and transfer criteria. The financial difficulties of developing countries were compounded by the sharp reduction in new bank

² A historical overview of flows to developing countries, with emphasis on the late 19th century and the first 30 years of the 20th century, is contained in Eichengreen and Lindert (1989).

flows, and the related curtailment of access to other international private capital flows.

With the drying up of new voluntary flows to many developing countries in the early 1980s, the emphasis shifted to relaxing liquidity pressures through concerted financing from private creditors.³ This emphasis was part of the broader "international debt strategy" which sought to strike an appropriate balance between adjustment and financing while ensuring relatively equitable burden-sharing among creditors. The strategy was based on two key elements, namely: the implementation by developing countries of adjustment programs aimed at restoring domestic and external financial stability; and the provision of financial support by official bilateral and commercial bank creditors.

The provision of financial support from commercial banks initially took the form of rescheduling of principal obligations and concerted new money loans to refinance interest payments. While this approach was broadly successful in meeting the immediate liquidity needs of developing countries as well as in preserving the financial integrity of the international banking system, its sustainability was uncertain. Specifically, developing country growth performance remained sluggish, while the mobilization of concerted bank loans became more difficult as a result of weakening creditor cohesion and associated free-rider problems. In recognition of these factors, the emphasis in the international debt strategy shifted away from liquidity support toward more fundamental restructuring of contractual debt obligations (i.e., addressing solvency issues). A key notion underlying this move was the need to address debt overhang concerns as a precursor to the reestablishment of developing countries' access to voluntary international capital market financing.⁴

In practical terms, this evolution in the international debt strategy was reflected in greater use of debt and debt-service reduction instruments. Through a reduction in the contractual loan amount and/or interest rates, these instruments provided for a more fundamental restructuring of external liabilities consistent with both immediate liquidity considerations and longer-term external solvency issues. As of the second half of last year, an estimated

³ In several cases, this was in conjunction with lending by international financial institutions and rescheduling of official bilateral debt.

⁴ Dooley et. al. (1990) contains a useful discussion of the debt overhang concept.

US\$116 billion of developing country sovereign debt had been restructured under debt and debt-service reduction operations,⁵ resulting in an estimated gross reduction in the present value of obligations amounting to some US\$51 billion at a cost of US\$18 billion.⁶

The use of debt and debt-service reduction instruments was facilitated by developments in the secondary market for bank claims. The initial expansion in this market in the second half of the 1980s was due to three factors: banks swapping assets as a means of rationalizing their loan portfolios; purchases of debt claims for use in officially sanctioned debt-equity conversion programs; and retirement by corporation own-debt at a discount. The sharp increase in market activity, however, followed official support for debt and debt-service reduction operations under the Brady Plan.⁷ These operations greatly expanded the liquidity of the market through, *inter alia*, the creation of new instruments (the so-called "Brady bonds"). While reliable data are not available, rough estimates suggest that the size of the market grew from less than US\$5 billion in 1985 to US\$70 billion in 1990; it expanded further to around US\$500 billion in 1992.⁸

Debt and debt-service reduction operations also played a critical role in defining the nature of the subsequent private flows to developing countries. By alleviating concerns about debt overhang effects and by reducing the risks of disruptions in creditor/debtor relations (and related adverse externalities affecting the trade and payments pattern), this fundamental restructuring of debt liabilities was an important contributor to the success of the initial phases of the restoration by developing countries of access to the broader range of voluntary market financing (*viz.*, equity and bond financing).⁹

⁵ In 1994, Brazil finalized a commercial bank debt and debt-service reduction package covering some US\$50 billion of obligations.

⁶ See Collins and El-Erian (1993), who review the main lessons for developing countries from the experience to date with comprehensive debt and debt-service reduction packages with commercial bank creditors. A discussion of the restructuring of official bilateral claims on developing countries is contained in Kuhn et al. (1994).

⁷ A discussion of the origins and elements of the plan is contained in Griffith-Jones (1989).

⁸ Based on estimates reported in Leipold et al. (1991), and Collins et al. (1993).

⁹ This is discussed in El-Erian (1992).

A second factor was the impact of domestic adjustment and reform policies on investors' perceptions of developing country risk. Indeed, this was the most important pull factor contributing to enhancing the profitability (in absolute terms) of investing in developing countries. Thus, while the specifics vary, the policies contributed to: (i) improved prospects for investment and sustained economic growth due to the implementation of structural reforms and reduced domestic and external financial imbalances; (ii) alleviation of private sector concerns about transfer risk as the reform of the exchange and external payments regimes provided greater assurances on the availability and pricing of foreign exchange; and (iii) opening up of domestic capital markets to foreign investors as part of the broader program of economic and financial liberalization.

It may be noted that appropriate macroeconomic policies proved essential not only for the initial phases of market opening and integration but also to minimize the potential adverse implications of surges in capital flows. The analysis of this issue has attracted growing attention recently. Most studies confirm that a prompt adjustment in macroeconomic policies and flexibility in the domestic cost-and-price structure hold the key to avoiding the overheating and the loss of competitiveness that may result from such surges.¹⁰

The third factor contributing to renewed market access for developing countries related to their ability to tailor financial instruments - particularly in the initial stages of the process of market re-entry. As illustrated by the experience of Latin American countries in particular, key aspects included: (i) the placement of an appropriate benchmark instrument on the basis of which subsequent issues were priced off; (ii) targeting specific markets or investor segments; and (iii) incorporating features that address particular credit risk concerns. Among the latter, several developing countries resorted to "credit enhancement techniques." Among such techniques, the most commonly-used one was that of collateralization which, by linking payments to a more secure source (e.g. receivables held in industrial countries), provided a means of reducing credit risks as well as transfer risks.

The role of international equity flows

Notwithstanding the return of voluntary flows to several developing countries, there is a marked difference vis-a-vis the earlier episode of the 1970s.

¹⁰ For example, Schadler et. al. (1993).

Thus, while there has been some resumption of voluntary bank lending to developing countries, its quantitative importance remains limited. Specifically, voluntary bank lending flows to developing country market re-entrants amounted to only US\$2.9 billion in 1990-92, compared to US\$32-billion in the form of international bond and equity flows.¹¹ The contrast is even more stark for 1993, when voluntary bank loans amounted to only US\$0.5 billion in the first half of the year compared to US\$14 billion for other flows.

The share of developing countries in total international bond issues in international markets rose from a negligible level in the 1980s to 2.7 percent in 1990 and 7.1 percent in 1992; it amounted to 8.7 percent in the first half of 1993 (Table 1).¹² Similarly, the share of developing countries in global equity issuance rose from a negligible level in the 1980s to 15.5 percent in 1990 and 40.9 percent in 1992; it totalled 32.5 percent in the first half of 1993. In terms of contribution to total external capital flows to developing countries, the share of portfolio equity and bond financing rose from 3.1 percent in 1982-88 to 16.0 percent in 1992 (Table 2). This share varied considerably among developing country regions, ranging from 28.8 percent for Central and South American countries to 3.3 percent for Africa.

Equity-related flows to developing countries have taken a number of forms. These include direct investor flows to equity markets in developing countries, purchases of developing market equities through pooling vehicles (such as country, regional and sector-specific mutual funds), and placement of developing country equities on industrial country markets. In some cases, the associated inflows were facilitated by the large pool of capital owned by residents which had previously been held outside the developing countries. Indeed, return flight capital has tended to exhibit the most rapid response to improvements in the economic and financial situation of developing countries. Also noticeable is the widening in the coverage of international equity flows in the

¹¹ Collins et. al. (1993).

¹² The process was facilitated by the increase in the number of developing countries that were assigned credit ratings by the major and most market-credible rating agencies. As detailed in Collins et. al (1993), eight countries received first-time ratings in the 18-month period ending in June 1993, of which five were "investment grades." This trend has facilitated flows from industrial country investors subject to internal restrictions or prudential regulations regarding ungraded instruments.

Table 1. International Bond Issues by Developing Countries and Regions
(In millions of U.S. Dollars)

	1989	1990	1991	1992	<u>First Half</u> 1993
Developing countries and regions	5,487	6,164	12,428	23,526	21,718
Africa	159	90	236	725	--
Algeria	159	90	--	--	--
South Africa	--	--	236	725	--
Asia	1,601	1,630	3,000	5,846	5,430
China	--	--	115	1,289	1,057
Hong Kong	193	66	100	185	657
India	450	274	227	--	--
Indonesia	175	80	369	493	30
Malaysia	425	--	--	--	500
Philippines	--	--	--	--	345
Singapore	--	105	--	--	--
South Korea	258	1,105	2,012	3,208	2,014
Taiwan Province of China	100	--	160	60	36
Thailand	--	--	17	612	791
Europe	2,171	1,856	1,960	4,562	4,120
Bulgaria	101	--	--	--	--
Czechoslovakia, former	--	375	277	129	--
Czech Republic	--	--	--	--	375
Hungary	879	888	1,186	1,242	1,642
Turkey	1,190	593	497	3,191	2,103
Middle East	723	--	400	--	1,000
Israel	723	--	400	--	1,000
Western Hemisphere	833	2,589	6,832	12,392	11,167
Argentina	--	21	795	1,570	941
Brazil	--	--	1,837	3,655	2,962
Chile	--	--	200	120	333
Colombia	--	--	--	--	325
Mexico	570	2,306	3,373	5,916	5,932
Panama	--	--	50	--	--
Trinidad and Tobago	--	--	--	100	--
Uruguay	--	--	--	100	140
Venezuela	263	262	578	932	535
Memorandum Items					
Issues under Euro-medium term note					
(EMTN) programs	--	--	375	1,165	710
Argentina	--	--	--	40	50
Brazil	--	--	--	110	110
Mexico	--	--	375	615	550
Venezuela	--	--	--	400	--
Total bond issues in international bond market	255,800	226,556	297,588	333,693	249,317
Share of developing countries and regions in global issuance (in percent)	2.1	2.7	4.2	7.1	8.7

Source: Private Market Financing for Developing Countries, IMF, 1993.

Table 2. Developing Countries: Capital Flows 1/
(In percent of total unless otherwise noted)

	1971-76	1977-81	1982-88	1989-92	1991	1992
All developing countries						
Foreign direct investment	10.8	8.5	10.6	17.7	18.8	18.0
Portfolio equity	--	--	--	3.3	4.0	5.8
Bonds	1.4	2.5	3.1	5.7	6.2	10.2
Commercial bank loans	35.8	43.5	27.9	16.2	16.6	9.6
Suppliers and export credits	9.2	10.3	11.7	11.4	9.4	16.1
Official loans	30.9	26.4	35.7	31.9	29.3	28.9
Grants	11.9	8.8	10.9	13.8	15.7	11.4
Total in billions of US\$	41.2	110.9	125.5	175.3	177.7	218.4
Total in billions of constant dollars 2/	78.1	117.6	117.6	138.0	138.6	167.5
Africa						
Foreign direct investment	13.3	4.7	4.4	5.8	5.2	5.4
Portfolio equity	--	--	--	0.3	0.5	0.9
Bonds	0.3	0.9	0.7	1.0	0.8	2.4
Commercial bank loans	18.0	23.4	16.5	9.6	9.6	7.3
Suppliers and export credits	13.2	20.4	20.0	18.2	16.9	16.0
Official loans	43.7	39.0	40.1	35.4	33.5	37.2
Grants	11.4	11.7	18.3	29.7	33.5	30.8
Total in billions of US\$	8.1	22.0	24.9	30.4	29.6	30.8
Total in billions of constant dollars 2/	14.9	22.3	22.3	22.3	21.3	21.9
Asia						
Foreign direct investment	8.9	8.9	13.2	22.7	24.1	22.7
Portfolio equity	--	--	--	3.9	1.6	7.5
Bonds	0.7	1.4	5.2	3.9	4.2	6.5
Commercial bank loans	21.3	30.9	31.5	23.0	25.5	14.7
Suppliers and export credits	9.2	11.9	10.2	10.9	8.8	19.6
Official loans	42.2	36.0	32.7	29.8	29.8	24.5
Grants	17.7	10.8	7.2	5.7	6.0	4.6
Total in billions of US\$	10.5	24.6	43.3	73.8	73.7	92.8
Total in billions of constant dollars 2/	19.8	25.7	40.8	59.8	59.0	73.4
Middle East and Europe						
Foreign direct investment	1.4	5.8	7.0	8.5	5.9	8.1
Portfolio equity	--	--	--	0.3	0.3	0.4
Bonds	0.6	0.3	1.9	6.3	3.8	9.5
Commercial bank loans	10.0	16.2	15.4	8.6	2.3	2.1
Suppliers and export credits	4.4	5.8	11.4	11.7	14.0	17.3
Official loans	43.1	43.5	40.9	30.6	30.0	35.3
Grants	40.5	28.5	23.4	34.1	43.8	27.3
Total in billions of US\$	5.0	14.6	20.5	25.5	23.6	33.6
Total in billions of constant dollars 2/	8.8	14.9	19.1	18.9	17.2	24.0
Western Hemisphere						
Foreign direct investment	12.6	10.7	14.0	22.6	25.1	22.5
Portfolio equity	--	--	--	5.8	11.3	8.8
Bonds	2.6	4.5	2.2	10.7	13.5	20.0
Commercial bank loans	59.3	66.7	36.2	14.2	14.2	7.3
Suppliers and export credits	8.7	6.2	8.8	7.3	3.7	10.2
Official loans	15.8	11.1	35.2	34.4	25.7	27.9
Grants	1.1	0.8	3.5	5.0	6.6	3.2
Total in billions of US\$	17.6	49.7	36.8	45.6	50.8	61.2
Total in billions of constant dollars 2/	36.6	58.1	36.0	37.8	42.5	49.6

Source: IMF Staff estimates; and World Bank.

1/ Gross flows (excluding short-term loans). These data should be regarded as illustrative of the broad trends of flows to developing countries.

2/ Deflated using 1985 = 100 unit value of total imports.

last couple of years in terms of borrowers and sources of funds. Thus, the flows of funds to developing countries in the 1990s have been part of the broader process of internationalization and integration of capital markets.¹³ At the same time, it is worth noting that this process has not yet significantly affected countries in certain regions, such as Sub-Saharan Africa and, to a lesser extent, the Middle East.

Emerging equity markets (especially in Asia and Latin American countries) have experienced sharp increases in capitalization and trading activity. The combined capitalization of traded equities on the 38 emerging stock markets has risen from under US\$100 billion at the end of 1983 to nearly US\$1 trillion by the end of October, 1993. As detailed in Feldman and Kumar (1994), capitalization in relation to GDP is now larger in some developing countries than in the United Kingdom and the United States. The increase in trading activity has also been noteworthy, amounting to some twenty-fold or more in Argentina, Hong Kong, Korea, Mexico, and Thailand.

In addition to the general issues discussed above - especially, the role of appropriate macroeconomic policies - several factors may be identified as accounting for the growth in emerging equity markets and the importance of international equity flows.¹⁴ These include structural and regulatory changes in the international investment process as well as developments in industrial country markets.¹⁵ Overall, there has been an increase in expected returns from investing in developing country credit and equity instruments, combined with a decline in the cost of doing so; the latter was also favorably influenced for some time by lower opportunity costs associated with investments in industrial countries.

The improvement in developing-country "fundamentals" discussed previously has been accompanied by structural and regulatory changes facilitating the response of international investors. Technological progress, particularly that which affects information flows as well as payments and settlement systems,

¹³ See Goldstein et. al. (1993).

¹⁴ Indications of a correlation between economic fundamentals and cumulative equity returns may be found in Mullin (1993), including a statistically significant positive correlation with export growth rates.

¹⁵ See El-Erian (1994).

has reduced transactions costs. This has been reinforced by increased liquidity and improved regulatory regimes. Indeed, important steps have been taken in several developing countries to reduce investors' risks associated with limited liquidity, inadequate investor protection, weak accounting and information disclosure systems, and vulnerable payments and settlement regimes. The availability of investment paper in some countries has also been enhanced by the modalities of privatization programs. Finally, several developing countries have rationalized the domestic taxation of equity returns, including the treatment of dividend income and capital gains.¹⁶

Regulatory changes in industrial country markets have also played an important role by lowering regulatory costs. They include rationalizing procedures governing registration, disclosure, and minimum credit rating standards, as well as the relaxation of restrictions on investment abroad by institutional investors and the emergence of a broader range of vehicles for such investments (e.g. mutual funds). Particularly relevant are operations associated with the so-called American and global depository receipts systems (ADR and GDR, respectively), which provide for international trading of developing country stocks through trust arrangements, with the clearance and settlement handled by custodian banks in industrial countries.¹⁷ Overall, the increased accessibility of equity markets in developing countries provided for a process of adjustment in the appropriately-diversified international portfolios.

The response of investors was also affected by an important push factor - developments in expected common currency returns on alternative investments. Thus, particularly in the context of expectations of relatively stable bilateral exchange rates, the reduction in nominal yields in industrial country markets in the early 1990s - especially in the United States - and, more generally, subdued economic activity, induced investors to seek opportunities in developing countries.¹⁸ Conversely, the increase in industrial country nominal rates in the first half of 1994 contributed to a sharp correction in emerging equity and bond markets.

¹⁶ Details may be found in International Finance Corporation (1993).

¹⁷ See Collins et. al. (1993).

¹⁸ See Calvo, Leiderman and Reinhart (1993).

Economic benefits of equity market growth and internationalization

The process of capital market growth and internationalization provides developing countries with a larger pool of capital which can assist in financing productive investment activities.¹⁹ Indeed, recent studies document the importance of equity financing for firms in the rapidly-growing economies of East Asia, even when compared to industrial countries.²⁰ This comes at a time of increasing pressures on industrial country aid budgets and growing international competition for the relatively less divisible foreign direct investment flows.

In addition to expanding the channels for financial holdings to be harnessed to productive investments, the process of capital market growth and internationalization facilitates the operation of price signals in lieu of market clearing through quantity rationing, which has proven to be more disruptive. Moreover, a well-functioning price mechanism, and the related potential for efficient mergers and acquisitions, can strengthen market discipline in developing countries and contribute to a more efficient allocation of capital.²¹ The corollary at the macroeconomic level is the potential for the enforcement of greater discipline on policies through more immediate costs to policy slippages in terms of market reaction, thereby also providing for enhanced policy credibility.

There is a growing literature on the specific role of equity markets in economic development. The consensus view, as formalized by Atje and Jovanovic (1993), is that these markets can potentially have a beneficial effect, and may even lead to an increase in the steady-state growth path of an economy. This is so in part because they are conducive to the development of venture capital and, hence, technical progress. They can raise the fraction of financial resources available for investment by increasing liquidity, and by

¹⁹ See Dailami and Atkin (1990). While the focus here is on developing countries, it should be noted that there are also several benefits for industrial countries. Thus, developing country equity markets allow for risk reduction through greater portfolio diversification. For example, the analysis carried out by Feldman and Kumar (1994) for the period December 1988-June 1993 point to a low and sometimes negative correlation between stock prices in the large emerging markets and those in the United Kingdom and the United States.

²⁰ Singh and Hamid (1992) and Singh (1994).

²¹ See Kumar (1984), Schleifer and Vishny (1986), and Feldman and Kumar (1994).

enhancing the set of financial instruments available to savers seeking to diversify their portfolios. The limited availability of debt finance in many developing countries, including bank loans which may be limited to a select group of companies, can also make equity finance highly attractive.²²

In part, equity markets can have a beneficial effect because by eliminating the likelihood of premature withdrawal of capital from firms, they can accelerate the growth rate of human capital production, which plays a crucial role in determining growth in the long run. In this context, it has been noted that high capital gains taxes, or taxes on equity market transactions, can directly affect growth rates. These taxes alter resource allocation by reducing the expected after-tax resale value of companies' stock. This reduces the fraction of resources invested, and may thus have adverse consequences for growth.

It should be noted, however, that the use of equity markets is also known to entail a number of potential costs. For instance, the managerial and financial resources required for instituting, regulating, and operating these markets could bear high opportunity costs. More importantly, there may be costs due to the separation of management and ownership, the efficiency with which project risks are diversified and priced and, possibly, excessive volatility.

Particular attention has been drawn to the role of these markets in takeover activities and their impact on the competitiveness of companies. It is suggested, for instance, that takeovers, whether actual or potential, may reduce long-term investment and hence competitiveness by inducing a bias towards short-term profits and financial returns. In this context, the performance of companies in the United Kingdom and the United States is contrasted with the so-called bank-based systems in Germany and Japan, but without yielding convincing results (see Singh 1994). Evidence on this issue is even less systematic for developing countries, but what little evidence there is does not suggest that the takeover mechanism significantly affects firms' operating horizons.

As far as the magnitude of equity financing is concerned, recent evidence would tend to suggest that developing country corporations use non-internal

²² This limitation can reflect endogenous constraints in credit markets, resulting from adverse selection and incentive problems. See Feldman and Kumar (1994) for further discussion of these issues.

finance (such as long-term debt and equity) to a far greater extent than in industrial countries. While growth in industrial countries is financed overwhelmingly from internal sources (that is, retained profits), in the case of some developing countries such as Korea, Mexico, and Thailand, the median corporation in the top 50 financed over 80 percent of its growth from external sources.²³ Within non-internal sources, it is shown that equity finance is a very important source of funds among the listed large companies, accounting in the 1980s for as much as 50 percent of corporate growth in Jordan and over 60 percent in Turkey. In industrial countries, by contrast, net new issues on equity markets usually make a small contribution to corporate growth.

The heavy reliance of these developing country corporations on equity markets may appear surprising given the level of development of these markets and the fact that few listed firms actually have a long enough track record. Singh (1994) offers two main explanations to account for this phenomenon. First, governments in several developing countries have played an active role in encouraging equity funding to deepen and broaden stock markets, in part to accommodate privatization programs and, in the case of Latin American countries, to attract foreign portfolio investment. Many restrictions on market activities have been removed, and tax incentives as well as a variety of non-tax benefits have been provided in order to induce firms to seek stock market listing and for individuals to purchase shares. For instance, in Jordan companies are allowed the use of the limited liability construct only if they offer a minimum proportion of their equity to the general public (25 percent for financial institutions and 50 percent for industrial and commercial companies); in India, non-residents of Indian origin have been given special tax incentives to invest in the stock market; in Korea, the government has set up a stabilization fund in order to provide price support as well as place a statutory ceiling on debt-equity ratios for firms, thereby forcing them to seek equity market financing.

The second explanation for firms' reliance on equity markets relates to the sharp decline in the cost of capital following the increase in the price-earnings ratios during the 1980s. For instance, in 1980 the average price-earnings ratio on the Korean market was about 3. By 1989, price-earnings ratios had risen more than fourfold (average 14), and thus the cost of equity capital fell

²³ Singh and Hamid (1992), and Singh (1994).

sharply. In terms of cash flow, taking into account taxes, the cost of equity capital to Korean corporations in 1989 is estimated to have been only three percent, as dividend yields were only two percent. This compares with a figure of 12.5 percent for commercial bank loans. Singh (1994) notes that there appears to be some positive relationship between equity financing and the long-term price-earnings ratios in a sample of developing countries.

The internationalization of developing countries' equity markets entails three important indirect benefits which also warrant mention at this stage. First, it enhances developing countries' ability to use market-based risk management techniques so as to reduce the cost of unfavorable international price developments. This is particularly important for countries with limited trade diversification. Thus, the reduction in country-specific risk perceptions provides several developing countries with access to cost-effective hedging tools that limit the impact of unanticipated adverse developments in both commodity prices and international interest rates.²⁴ Secondly, as investors learn about investment opportunities in developing countries, there is a range of potential positive externality effects. These include improvements in the financial intermediation process resulting from the increased liquidity and efficiency of developing country financial markets, as well as potential transfers of expertise and technology. In addition, by reducing the so-called "recognition problem," there is scope for larger foreign direct investment and higher exports. Thirdly, by increasing the immediate costs of policy slippages and thereby providing for a more effective disciplinary instrument on policy-makers, greater integration with international capital markets can play a decisive role in enhancing policy credibility.

As is the case with other types of financial inflows, the use of equity financing may be deemed efficient if, as discussed earlier, it is associated with activities whose rate of return equals or exceeds the annual cost of "servicing" the inflows. An important aspect of equity finance is that its "servicing" (through profit transfers and dividend payments) is linked directly to the performance of the underlying investment. As a result, in assessing the yield criterion, there is a more direct correspondence between the capacity to meet the payments and contractual obligations. This may be compared to loans where payments are not directly linked to the performance of the financed activity. In partic-

²⁴ Mathieson et. al. (1989) reviews the actual and potential use of market-based risk management instruments by developing countries.

ular, the attractiveness of foreign direct and portfolio investment increases in the context of a relatively high stock of debt.

The internationalization of equity markets entails important challenges for policy-makers. With a more open capital account, the economy becomes more vulnerable to shifts in investors' sentiment. Hence, policy slippages translate more quickly into capital outflows and currency substitution. Moreover, the capital markets of developing countries may become more sensitive to price instability in industrial country markets - the so-called "contagion effects" of financial market instability. Surges in external capital inflows may also complicate economic management through increased inflationary pressures and appreciations in the real effective exchange rate, with potential adverse effects on international competitiveness.²⁵ The associated risks are more pronounced in cases where push-induced flows - as well as associated "bandwagon effects" - are important and result in "bubbles" (that is, price levels that are not sustainable by the economic fundamentals).²⁶

Analysis of equity markets in selected Middle Eastern countries

Following the general discussion of equity financing in developing countries, the paper will now review the status of equity markets in the Middle East, focusing on six countries, namely: Egypt, Iran, Jordan, Morocco, Tunisia, and Turkey. This set covers relatively active markets (Jordan and Turkey), an established but less active market (Egypt), and more recently-established ones (Iran, Morocco, and Tunisia). The discussion below first provides general background information, and then, using quantitative indicators, compares equity markets in these countries with other emerging markets.

Some general features of the marketplace

The financial sector in Middle Eastern countries is dominated by commercial banks. Securities markets in these countries are relatively small, despite the fact that the region contains some of the developing world's largest institutional investors in the international bond markets. For instance, the total capitalization of the Arab securities markets, reflecting mainly loan rather than risk finance, is around US\$50 billion, compared to the region's private sector

²⁵ See Schadler et. al. (1993).

²⁶ See, for example, the discussion on Hong Kong contained in Kumar (1994).

foreign asset holdings of over US\$700 billion.²⁷ Foreign participation, even in government bond markets, is practically non-existent. Similarly, there have been few direct placements of Middle Eastern equities on foreign markets. Moreover, the use of market-based risk management instruments by countries in the region has been extremely narrow, despite the relatively limited degree of export diversification.

While there are considerable differences across countries in the importance of equity markets, with Jordan and Turkey having thriving markets, the supply of corporate securities remains generally limited, both in absolute terms and relative to the size of the economies. As discussed below, this reflects several factors which have constrained demand for, and supply of, equities, including the closed, family-owned nature of many companies in the region. Moreover, in several countries public sector enterprises continue to play a dominant role in a wide range of economic activities. The number of effectively-quoted companies has thus been relatively small, while shares available for trading have been limited, and the markets have, in general, remained thin and illiquid.

Due to the relatively underdeveloped nature of equity markets, the region has attracted a disproportionately small share of recent international flows to developing countries. Thus, according to the data compiled by Fleming Investment Management Limited, Arab countries received around US\$0.2 billion out of the total of US\$52 billion that flowed into developing country equity markets in 1993.²⁸ The region's share of inflows associated with new issues was also negligible. More broadly, IFC data indicate that Arab countries accounted for only about two percent of total flows of foreign portfolio and direct investment in developing countries in 1989-92, with the bulk of the Arab country share reflecting foreign direct investment.²⁹

While equity markets in Middle Eastern countries other than Jordan and Turkey are small, the provision of risk finance and the tradition of market trading is hardly new. In Egypt, for instance, the Alexandria and Cairo stock exchanges are both over one century old, and the Cairo stock market was one of the most active in the world in the 1940s. Other countries have also had

²⁷ See Abisourour (1994).

²⁸ Bates (1994).

²⁹ Hovaguimian (1994).

stock exchanges for many years: an exchange was set up in Iran in 1966, and in Tunisia in 1969.

It is increasingly recognized that, given the competition for foreign sources of funding and the limited availability of domestic finance in some countries relative to their developmental needs, equity markets could play an important role in providing capital to productive sectors, as well as in facilitating the process of privatization. As noted above, the experiences of other developing countries is encouraging in this regard. They demonstrate that if conditions are right, relatively dormant markets can become relatively liquid and functioning quickly, with considerable potential. These issues are discussed below.

*Development of markets*³⁰

Jordan has a relatively highly developed equity market which plays an important part in the economic life of the country.³¹ Instruments traded on the stock exchange include private corporate equities and bonds, Jordanian government bonds, and Jordanian dinar certificates of deposits issued by commercial banks. The bull market of the early 1980s was associated, *inter alia*, with an influx of remittances from workers in the Arab oil countries following the sharp rise in international oil prices. With the fall in oil prices, remittances declined sharply, and funds were withdrawn. A second generalized surge was recorded starting in 1992, consistent with the marked improvement in economic and financial performance. Activity was well above all previously recorded levels, with a daily volume averaging about US\$5 million and daily trading levels exceeding US\$10 million on several occasions.

Concerning the institutional environment, the government promulgated in 1986 the Encouragement of Investment Law, in which it provided numerous tax exemptions and holidays for any investment in the securities industry. Capital gains, earned interest, profits and dividends are all tax-exempt. There are no special regulations affecting foreign investors; Arab and non-Arab investors are all treated on an equal footing with Jordanian investors. In addition, the repatriation of investment income (in any convertible currency) out

³⁰ For a detailed discussion of Arab equity markets in general, see Abisourour (1994), which is part of an ongoing project by the Arab Monetary Fund.

³¹ See Toukan (1994), who details the structure of the Amman Stock Exchange established in 1978.

of Jordan by non-residents is free of restrictions.

In the case of Turkey, although securities trading has had a long history (the first securities market was established in the late 1860s), the equity market in its present form is recent. Centered around the Istanbul Stock Exchange (ISE), it dates back to the enactment of a capital market law in 1983. This was associated with the government's broader policy of financial and economic liberalization. In part, the government's desire to develop a deeper capital market stemmed from a decision to privatize the large and inefficient state enterprises. The privatization program was launched in 1986, but experience with privatization has not been entirely successful, leading to public sector shares being offered outside the stock exchange. The operational elements of the exchange have been significantly improved during the last few years. Since 1989, foreign investors have been permitted to trade in listed securities with no restrictions, and pay no withholding or capital gains tax provided they are registered with the Capital Markets Board (CMB) and the Treasury. Also, there is considerable information available on the stock market and its constituent stocks on a regular basis.

Listing requirements are quite stringent in Turkey: for securities to be listed on the ISE, the company must offer at least 15 percent of the company's shares to the public; have some trading history; be in a sound financial condition as determined by the exchange; and present a detailed prospectus for public offering. Reporting requirements for companies that are listed on the exchange are twofold: those imposed by the CMB, which governs stock market activities, and those imposed by the ISE. CMB regulations require regular independent external auditing of companies listed in the ISE, as well as special audits conducted when the company is going through a public offering, merger, acquisition, or liquidation. Listed companies are under an obligation to provide the ISE with information concerning their operations, including such aspects as annual financial statements; minutes of general assembly meetings; account statements; and changes in shareholders owning 10 percent or more of the company's stock.

In Egypt, the Cairo Stock Exchange was founded in 1883. As early as 1906 there were over 300 quoted companies. Activity remained relatively brisk until the nationalization program of the early 1960s, when trading volumes virtually collapsed and only about 30 companies remained listed as compared to 925 in the late 1950s. The exchange was never closed, however, and as the

market shrank, the government subsidized the remaining brokers whose commissions had fallen sharply. Greater attention has been devoted recently to the potential role of equity markets within the context of Egypt's adjustment and structural reform program. Specifically, the equity market is viewed as providing an important instrument for mobilizing domestic and external resources; indeed, it is reported that without access to a well-functioning capital market, many otherwise viable firms may not be able to continue operating in the face of increased foreign competition. Moreover, equity markets would facilitate the privatization of state-owned enterprises, as well as broaden the economy's ownership base.³² In addition, there is growing interest among market operators in expanding the range of instruments (including the introduction of mutual funds). This is accompanied, as discussed below, by greater efforts on the part of market authorities and regulators to reduce institutional, legal and other impediments.

The institution of stock exchanges in the other three countries is more recent as compared to Egypt and Turkey: Iran in 1966, Tunisia in 1969, and Morocco in 1973. In these countries, the bourses did not play a major part in economic life in the 1970s and 1980s, reflecting, *inter alia*, the role of government-directed credits and concessional facilities. With the reform of the financial sector, more emphasis is being placed on equity markets.

Comparative market indicators

Before examining the factors which may explain why Middle Eastern markets have in general remained small and the differences among them, one should consider a number of indicators of market activity and performance, and compare them with other countries. Table 3 provides data on market capitalization of equities for two benchmark years (1983 and 1992). In 1983, the equity market in Egypt was larger than that in Turkey, as well as several other emerging markets, when judged by capitalization (in U.S.dollar terms) as well as in relation to GDP. However, by the end of 1992, while the Egyptian market had increased roughly two and a half fold, other emerging markets, including the Turkish one, had increased by a factor of 10 or more. It is also noticeable that, at the end of 1992, the ratio of Jordan's market capitalization to GDP exceeded the ratios of most emerging markets, and was similar to that in industrial countries.

³² Fag El-Nour (1994).

**Table 3. Market Capitalization of Traded Equities
(Millions of U.S. Dollars and Percent of GDP)**

	1983		1992	
	Millions of U.S. Dollars	Percent of GDP	Millions of U.S. Dollars	Percent of GDP
ERF 1/ Countries				
Egypt	1106	3.0	2594	6.2
Iran	--	--	1157	0.1
Jordan	2713	56.7	3365	73.9
Morocco	253	2.1	1876	6.6
Tunisia	--	--	46	0.3
Turkey	968	2.0	9931	8.9
Other Emerging Markets				
Argentina	1386	1.3	18633	8.2
Chile	2599	13.2	29644	78.1
Colombia	857	0.9	5681	11.6
Greece	964	2.76	9489	12.2
India	7178	7.2	65119	26.7
Kenya	--	--	607	7.5
Nigeria	2970	3.7	1243	4.5
Philippines	1389	1.4	13794	26.2
Thailand	1488	1.5	58259	55.4
Industrial Markets				
Japan	565164	47.6	2399004	65.4
United Kingdom	225800	48.9	838579	79.8
United States	1898063	55.7	4757879	78.8

Sources: IFC Emerging Markets Fact books and International Financial Statistics.

1/ Economic Research Forum.

-- Indicates data not available.

In terms of the numbers of listed companies and value traded, the picture looks rather different. As Table 4 illustrates, the number of listed companies in Egypt increased from 154 to 656, compared to a much smaller increase in several other countries and a decline in others. However, if one considers activity on the market as measured by value traded, Egypt's increase was limited when compared to other markets. Consequently, value traded remains small relative to the number of companies quoted. In the case of Morocco and Tunisia, the average value traded has increased, but it remains relatively small, especially in the case of the latter market. Trading volume in the Amman Stock Exchange (ASE) has increased sharply from US\$19 million in

Table 4. Listed Companies and Value Traded

	1983			1992		
	No. of Listed Countries	Value Traded (Millions of US Dollars)	Avg. Value Traded (Millions of US Dollars)	No. of Listed Countries	Value Traded (Millions of US Dollars)	Avg. Value Traded (Millions of US Dollars)
ERF Countries						
Egypt	154	32	0.21	656	293	0.45
Iran	--	--	--	118	225	1.91
Jordan	95	329	3.50	103	1317	12.80
Morocco	76	17	0.22	62	70	1.13
Tunisia	--	--	--	17	2	0.12
Turkey	373 1/	7 1/	0.02	145	8191	56.50
Other Emerging Markets						
Argentina	238	389	1.63	175	15679	89.59
Chile	214	65	0.30	245	2029	8.28
Colombia	196	65	0.33	80	554	6.93
Greece	113	17	0.15	129	1605	12.44
India	3118	2377	0.76	6700	20597	3.07
Philippines	208	483	2.32	170	3104	18.26
Thailand	88	381	4.33	305	72060	236.3
Kenya	--	--	--	57	12	0.21
Nigeria	93	18	0.19	153	23	0.15
Industrial Markets						
Japan	1789	230906	129.10	2118	635261	299.93
United Kingdom	2217	42544	19.20	1874	382996	204.37
United States	7722	797123	103.20	7014	2678523	381.88

Sources: IFC Emerging Markets Fact books and International Financial

1978 to US\$640 million in 1989, and further to US\$1.5 billion in 1993 (the largest in all Arab countries). During the same period, the number of listed companies rose from under 70 to almost 115.³³

The interpretation of some of these raw data needs to be qualified with a number of observations. In Egypt, for instance, the 674 shares listed include over 400 that are closed companies, with the rest seldom trading. Companies, including those that are fully owned by state entities, choose to list in order to take advantage of tax breaks. It is estimated that the shares of only about 80 companies actually trade, even though this represents an increase from 40 in 1983.³⁴ Similarly, market capitalization data, which show the nominal value of all listed shares, should also be interpreted with caution; indeed, the exclusion of listed shares that are not available for trading sharply reduces the total. At the same time, those few shares that do trade usually do so at a multiple of their nominal value, thereby raising the total. After taking these factors into consideration, it has been estimated that market capitalization of the stocks that trade is probably around US\$0.5billion.³⁵

Finally, it is worth noting that in both Jordan and Turkey, market concentration (defined as the share of capitalization held by the ten largest stocks), albeit high compared to industrial country markets, is by no means out of line with market concentration in other emerging markets (Table 5). Moreover, capitalization concentration has declined over the last few years in both countries. There has been an even more significant decline in the share of value traded by the most active stocks, which attests to the increasing breadth and depth of these two markets.

Determinants of stock equity development

Consistent with the general analysis presented above, the absolute and relative developments of Middle Eastern equity markets are related to a range of economic, financial, institutional and legal factors. Market deepening and related international linkages have progressed furthest in the context of sus-

³³ Toukan (1994).

³⁴ Fag El-Nour (1994).

³⁵ See Morland (1993). The unadjusted market capitalization amounted to some US\$3 billion at the end of 1992.

Table 5. Market Concentration

	1988		1992	
	Share of Capitalization held by ten largest Stocks	Share of Value Traded by ten most active Stocks	Share of Capitalization held by ten largest Stocks	Share of Value Traded by ten most active Stocks
Jordan	62.2	46.0	49.4	31.6
Turkey	43.6	65.5	39.9	11.4
Argentina	53.2	78.5	68.8	72.5
Colombia	64.4	60.1	78.5	62.9
Greece	44.8	60.3	43.6	50.4
India	22.6	56.6	22.6	32.2
Nigeria	49.4	48.8	48.5	53.6
Philippines	54.6	56.8	22.6	32.2
Japan 1/	24.6	--	16.5	--
United Kingdom	22.7	--	24.2	--
United States	13.7	--	14.9	--

Sources: IFC

1/ Data for industrial markets are for April 1988 and April 1992.

-- Indicates data not available.

tained implementation of financial sector reforms and, more generally, policies aimed at liberalizing economic activities and reducing financial imbalances. The sustainability of normal financial relations with existing external creditors, characterized by timely payment of scheduled contractual obligations, has also been an important factor.

Historically, the financial sector in many Middle Eastern countries (especially the non-oil economies) was characterized by strict controls over rates of returns and administrative allocation of credit through the banking system and specialized public sector financial institutions. In recognition of the adverse impact on the overall process of financial intermediation - in the domestic mobilization and allocation of loanable funds as well as in the competition for international funds - several Middle Eastern countries have undertaken financial liberalization efforts. Measures included greater price flexibility, reduction of preferential credit facilities, and a move towards indirect monetary control instruments. In some countries, efforts were also directed at deepening domestic capital markets.

As noted earlier, the development of equity markets and their internationalization have also been adversely affected by investors' concerns regarding structural inadequacies in the legal and regulatory framework. The impact of financial sector reforms aimed at addressing these aspects has differed among countries due to two sets of factors. First, progress in the implementation of market-enhancing measures, such as: (i) improvements in trading, reporting and accounting systems; (ii) strengthening of legal procedures; and (iii) removal of fiscal distortions which discourage equity financing. Secondly, progress in the broader program of economic and financial liberalization, particularly in the areas of: (i) liberalization of regulations governing foreign direct and portfolio investments, including ownership, market access, and repatriation of capital, dividends and profits; (ii) privatization of state-owned enterprises, especially in the industrial, telecommunication, and financial sectors; and (iii) liberalization of the domestic investment regime, including the dismantling of government monopolistic and oligopolistic structures.³⁶

As noted in our previous analysis, there is also a need to consider the status of financial relations with existing creditors. After rescheduling in the late 1970s and early 1980s, Turkey met scheduled debt payments without recourse to debt restructuring, thus enhancing during this period the domestic and external private sectors' positive perceptions of that country's transfer risks. Jordan recently concluded a commercial bank package incorporating debt and debt-service reduction elements.³⁷ Anticipations of the beneficial impact of this package and, more importantly, the accompanying adjustment and reform policies, were reflected in a sharp increase in the secondary market valuation of Jordan's debt and is expected to facilitate its tapping of international financial markets. Egypt, whose debt is predominantly to official creditors, has completed two of the three stages of debt forgiveness with the Paris Club. Interestingly, reaction in the secondary market prices for Egypt's bank claims has been relatively more subdued.³⁸ Iran has achieved some progress in normalizing its external payments situation through bilateral refinancing arrange-

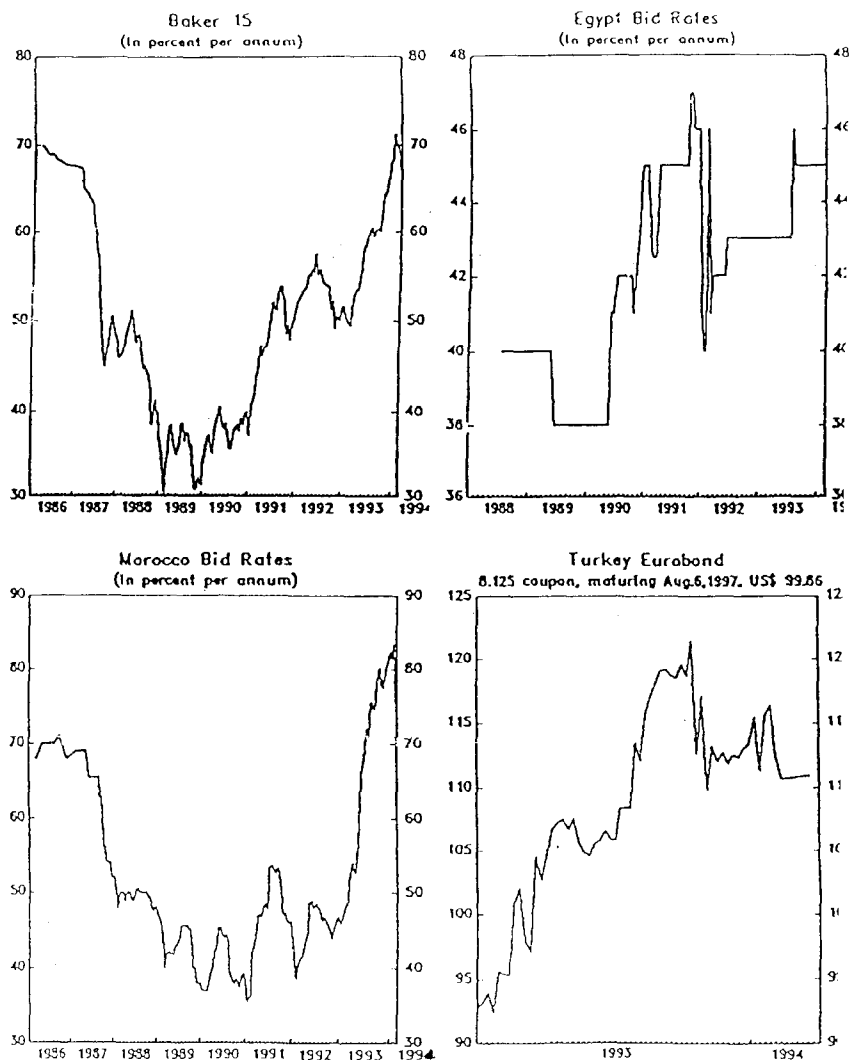
³⁶ A review of structural reform policies in Arab countries may be found in El-Erian and Tareq (1993). The Tunisian experience is discussed in Nsouli et. al. (1994).

³⁷ Debt restructured under debt and debt-service obligations amounted to some US\$735 million, resulting in an estimated reduction of US\$360 million in the present value of the debt at a cost of some US\$150 million.

³⁸ This partly reflects the operation of the debt-equity program which provided for conversions at a price of 50 cents on US\$1 of face value of external private debt liabilities.

ments. Finally, in the case of Morocco and Tunisia, external financial relations do not seem to have been the binding constraint on the expansion of equity markets. Thus, both countries have maintained normal payments relations with external creditors in recent years, with Morocco experiencing a sharp

Chart 1: Secondary Market Rates



increase in secondary market prices (Chart 1).³⁹

Market volatility and informational efficiency

Stock market efficiency plays an important role in enhancing the contribution of equity markets to the economic growth of countries. There are two related types of issues which are important with regard to the functioning of emerging equity markets in general, and which are specifically explored below for Jordan and Turkey (the two most developed equity markets in the Middle East): the extent of volatility and the information content of prices.

The first issue relates to the short-term volatility in stock prices, which is said to be "excessive". Such excessive volatility would tend to discourage the participation of risk-neutral and risk-averse investors. In theory, while it is difficult to have a clear criterion for defining the degree of "excessiveness", in practice, the standard usually adopted is that of the volatility of the established industrial country stock markets.⁴⁰ To the extent that emerging markets are more volatile, the reasons are considered to lie in the relative illiquidity in the markets and the sporadic availability of adequate information about quoted companies. The excessive volatility, in turn, is thought likely to lead to a weakening of investors' confidence, thus setting up a vicious cycle.

At first sight, the two Middle Eastern markets above differ considerably from each other, with a measure of volatility showing the Turkish market to exhibit considerably greater volatility than the Jordanian market (Table 6). Compared also to other emerging markets, the volatility in the Turkish market has been high. In general, emerging markets have been more volatile than industrial country markets. It should be emphasized, nevertheless, that as emerging markets develop and as information is reflected more quickly and efficiently, one should expect some increase in volatility initially. This, however, would be a short-term phenomenon related to the developmental nature of

³⁹ Morocco's last bank-debt rescheduling dates back to September 1990; it last rescheduled its official bilateral debt in 1992 under the auspices of the Paris Club. Tunisia has not rescheduled in recent years.

⁴⁰ A framework for assessing volatility was provided by Shiller (1981), who showed that variations in aggregate stock market prices were much too large to be justified by the variation in subsequent dividend payments. However, other studies have suggested that Shiller's tests depend crucially on the correctness of his model of the dividend process (see Marsh and Merton [1986]).

Table 6. Volatility in Selected Equity Markets, 1983-93 1/

	1983-93	1983-88	1989-93
Chile	7.6	7.9	7.2
Colombia	9.3	6.3	11.6
Hong Kong	8.1	10.0	6.8
India	10.0	7.5	12.8
Jordan	4.6	3.9	5.3
Korea	8.2	7.5	9.0
Mexico	13.8	16.4	7.9
Pakistan	6.7	2.8	8.8
Thailand	7.7	7.1	8.7
Turkey	21.2	24.3	19.8
Zimbabwe	8.9	9.5	7.7
Japan	0.9	3.8	5.7
United Kingdom	1.1	4.7	3.9
United States	1.0	3.8	2.9

1/ Measured by the standard deviation of the percentage change in equity prices (at end-month) in domestic currency: data for 1993 are up to August.

the market rather than an element that is intrinsic to underlying economic and financial factors.

The second issue concerns the information content of prices and the possibility of speculative bubbles. A bubble exists if the only reason for the stock price to be higher today is that investors believe that the price will be higher tomorrow, that is, when economic fundamentals do not justify such a price.⁴¹ In this situation, prices can keep increasing for considerable lengths of time relative to the levels warranted by fundamentals, only to fall sharply upon abrupt changes in market sentiment. There is a large literature in this area, and the discussion below first briefly summarizes some of the key issues concerning the related concept of market efficiency, and then presents some empirical evidence for Jordan and Turkey, as well as for some other emerging equity markets.

Efficient Equity Markets

The main issue examined here is the degree to which emerging equity markets are efficient in pricing securities. The market is said to be efficient if it

⁴¹ See Stiglitz (1990).

fully and correctly reflects all relevant information in determining security prices.⁴² In other words, in a free and competitive market the prices of financial securities should generally reflect all publicly-available information, and these prices should adjust rapidly to new information. Thus, there are two aspects to market efficiency: the type of information that the market is reacting to, and the speed with which the market reacts to that information. Since in an efficient market prices are assumed to reflect all available information at any given time, the current price of an asset would be a good estimate of its intrinsic value owing to competition among market participants.

In a world of uncertainty, however, the intrinsic value cannot be properly determined. Hence, there will be differences of opinion among market participants as to the value of each share, so that actual prices will wander around the intrinsic value. According to the efficient market hypothesis, however, competition among investors will ensure that these discrepancies are not too large to be profitably used. In a dynamic economy intrinsic values can themselves change as a result of new information. In case new information is "gradually" known to market participants, successive price changes will exhibit dependence. However, if the adjustment to new information is "instantaneous" successive price changes will be independent.

Thus, the issue becomes whether successive price changes over a short period exhibit any systematic patterns or whether they are indistinguishable from random walks.⁴³ A random walk implies that a series of stock price changes has no memory, that is, the past history of the series cannot be used to predict the future in any meaningful way. With the independence assumption, it is assumed that successive price changes or changes in returns are identically distributed according to some stationary distribution.

⁴² There is a very large literature in this area. For a summary of the key issues, see Fama (1976), and Fama and French (1988).

⁴³ The random walk hypothesis is associated with the so-called "weak" form of the Efficient Market Hypothesis (EMH). It asserts that prices fully reflect the information contained in the historical sequence of prices. Thus, investors cannot devise an investment strategy to yield abnormal profits on the basis of an analysis of past price patterns. The "semi-strong" form of EMH asserts that current stock prices reflect not only historical price information but all publicly-available information. The "strong" form of EMH asserts that all information that is known to any market participant is fully reflected in market prices. (For details, see Fama [1976], and Kaminsky and Kumar [1990]).

Formally, the random walk model states that

$$P_{t+1} = P_t + \varepsilon_{t+1} \quad (1)$$

$$\text{and } E(\varepsilon_t) = 0 \text{ and } E(\varepsilon_t \varepsilon_s) = \begin{cases} \sigma^2 & s = t \\ 0 & s \neq t \end{cases}$$

where P_t is the spot price of the stock at time t ; also, ε_t is assumed to be a sequence of independent, identically distributed random variables so that the joint density $f(\varepsilon_t \varepsilon_s) = f(\varepsilon_t)f(\varepsilon_s)$ for $s \neq t$.

It can easily be seen that the random walk model implies several testable restrictions on P_t . First, it follows from (1) that

$$P_{t+1} = P_t + \sum_{j=1}^1 \varepsilon_t + j \quad (2)$$

and hence the conditional expectation based on information available at time t and denoted by E_t is

$$E_t P_{t+1} = P_t \quad (3)$$

If prices do follow a random walk, it means that past prices contain no useful information regarding their future movements. This would mean that prices adjust rapidly to new information. So the independence of price changes is consistent with the efficient market.

The random walk hypothesis is borne out, to varying degrees, in active industrial country markets, indicating that only competitive rates of returns are likely to be earned over time, and that prices in such markets adjust instantaneously to new information as soon as it is publicly available.⁴⁴ In emerging markets, there may be dependence in prices for several reasons: Companies divulge far less information to investors compared to that available to investors in industrial countries; companies are subject to less investment

⁴⁴ As noted above, there is a large empirical literature in this area. The basic conclusion is that, while there certainly are instances of departure from the Efficient Markets Hypothesis in industrial country markets, in general these markets are extremely efficient in utilizing information. See Malkiel (1991).

research; and small markets are technically less elaborately organized. In addition, there are other structural and institutional factors involved: Markets have difficulty in detecting and discriminating among investment opportunities; capital markets are fragmented; a dichotomy exists in financial activities between organized and unorganized money markets; and investors have shorter horizons because of greater political and economic uncertainties.

Moreover, there are many potential and actual imperfections creating inefficiencies even in the most researched and regulated stock exchanges arising from transactions costs, speculative bubbles, disinterested shareholders, and information that is not freely available. In the case of emerging markets, the likelihood of these inefficiencies is higher, thereby rendering share prices temporarily dependent.

The goal of the econometric exercises reported below is to assess whether stock prices in Jordan and Turkey displayed any systematic patterns or whether they are indistinguishable from random walks. The results have interesting implications for portfolio management and the allocative efficiency of securities markets, as well as several related issues.

Empirical evidence for Jordan and Turkey

There are three methodological points which should be considered before testing the hypothesis of market efficiency: the level of disaggregation; the time interval over which prices are analyzed; and the standard of comparison. The analysis below uses indices of equity prices for the stock markets as a whole, rather than data on individual share prices. Although there are well-known problems in using an index rather than data on individual shares - an aggregative index may behave more systematically than its components due to the reduction of the random elements by averaging - data on individual series were not available. With regard to the time interval, the ideal would have been the information on transactions. Since this was not available, daily and weekly data were used. Daily data has the advantage of providing contiguous observations, although these data suffer from institutional cycles, such as no trading on weekends.

In order to provide some basis for comparison, the analysis was undertaken for three other countries in addition to Jordan and Turkey, namely: Greece, India, and the Philippines. This comparison also allows for an assessment of the

effect of short-term co-variation in the Jordanian and Turkish stock markets on the one hand, and the markets of the three other countries on the other. Greece was chosen because of its proximity to Turkey, as well as the similarity in the capitalization of Greek and Turkish markets both in 1983 and 1992. The Philippines also had similar capitalization, while India was chosen to compare with a market with a significantly larger capitalization.

The empirical evidence is based on the serial correlation as well as on the non-parametric "runs" techniques. The serial correlation analysis follows directly from equation (1) to (3) and tests the linear independence of log price changes. It indicates whether price changes at time (t) are influenced by price changes occurring (k) period earlier, where k indicates the lag length. It would be expected that if there is to be any correlation in log price changes, the most likely would be between successive terms, that is, $k = 1$, rather than with $k > 1$.

The results of the serial correlation analysis, for $k=1$ to 10, for both daily and weekly prices, are provided in Table 7. For the daily series, the results indicate that for both Jordan and Turkey as well as the Philippines, the first-order serial correlations are highly significant. In other words, there is serial dependence among day-to-day price changes in the stock markets in these countries, and the random walk model does not hold. With regard to higher order coefficients, the third, fourth and the sixth-order are significant for Jordan, while in the case of both Greece and India, some higher order coefficients are also significant. This suggests that not only successive price changes are related but distant lagged changes also exhibit some association. In general, however, for longer lags the coefficients are relatively small, and there is very little pattern in the signs of serial correlations.

In the case of weekly data, the pattern is somewhat different. The first order coefficients are statistically significant only for Greece, but several of the higher order coefficients are significant for the other countries. Taken together, both daily and weekly price series suggest some departures from the random walk hypothesis. It should be emphasized, however, that while a quantitatively small serial correlation coefficient could be highly significant statistically, it may imply dependence which has limited economic significance. Thus, the serial dependence displayed by some of the indexes can hardly be used for predicting the future course in a meaningful manner. This is so because the proportion of variance in current price changes explained by past price changes is in general quite small. Hence, from the point of view of

Table 7. Efficiency in Equity Markets: Serial Correlation Coefficients

lag	1	2	3	4	5	6	7	8	9	10
DAILY DATA 1/										
Jordan	0.194 ^a	0.241 ^b	0.029	0.171 ^a	0.060	0.022	0.044	0.002	-0.023	0.038
Turkey	-0.163 ^a	0.091	0.013	-0.005	-0.005	0.054	-0.031	0.006	0.050	0.070
Greece	-0.015	0.130 ^b	-0.030	0.058	0.002	0.103 ^c	0.013	-0.021	0.0150	0.034
India	0.081	0.043	-0.009	-0.106 ^c	0.041	0.081	0.039	-0.002	0.076	0.068
Philippines	0.210 ^a	0.054	-0.069	-0.060	0.030	0.043	-0.023	-0.043	-0.076	-0.059
WEEKLY DATA 2/										
Jordan	0.046	-0.035	0.024	-0.130 ^c	-0.085	0.051	-0.032	-0.043	0.054	0.023
Turkey	0.104	0.171 ^b	0.069	0.031	-0.038	-0.032	0.000	0.021	0.077	-0.030
Greece	0.129 ^a	0.178 ^a	0.062	-0.017	0.090	-0.012	0.096	0.018	0.095	0.023
India	0.099	0.086	0.137 ^b	0.143 ^c	0.034	-0.032	0.006	-0.037	-0.061	0.043
Philippines	0.104	0.082	0.124 ^c	-0.031	0.011	0.058	-0.011	0.038	-0.134 ^b	-0.021

1/ Price data obtained from Bloomberg Inc. are from September 1992 to March 1994; for all countries except Jordan and Pakistan, there are 278 observations for the first lag, 277 observations for the second lag, and so on. For Jordan, there are 167 observations for the first lag, and so on - this is because while the Amman stock market is open for business from Saturday to Wednesday, Bloomberg does not provide data for trading on Saturday and Sunday.

2/ Data are from December 1988 to April 1993; there are 225 observations for first lag, 224 for the second lag, and so on.

a,b,c denote statistically significant at the 1, 5 and 10 percent level respectively.

investors, dependence of such a low order may not be enough to increase their expected profits.

Next, a statistical exercise was undertaken in order to examine the efficiency hypothesis using runs analysis. This is important as it captures the possibility that share prices may be random most of the time but may become serially correlated for varying periods of time, and such dependence may not be detected by serial correlations.⁴⁵ Moreover, serial coefficients may be dominated by a few unusual or extreme price changes, so that a tendency towards a coherent pattern of price changes is obscured by one or two instances. Further, the runs tests, non-parametric in nature as they are, do not depend on the finite-variance assumption of price changes. A runs test is performed by comparing the actual number of runs (defined as a sequence of price changes of the same sign preceded and followed by price changes of different signs) with the expected number of runs on the assumption that price changes are independent. If the observed runs are not significantly different from the expected number of runs, then the inference is that successive price changes are independent.

The results of the runs analysis for both daily and weekly data are provided in Table 8. The first and fifth columns in the table indicate the number of times when there were positive, negative or zero changes in prices. The second and fourth columns indicate the number of positive, negative or zero runs, while the third and sixth columns indicate the total number of runs. It should be noted that runs were calculated up to a lag of 10. For instance, a positive run of lag k indicates a sequence of k positive price changes preceded and succeeded by either negative or zero price changes.

The expected number of runs of all types can be computed under the hypothesis that successive price changes are independent, and on the assumption that sample proportions of positive, negative and no-price changes are unbiased estimates of the population proportions.⁴⁶ The expected value of total runs is given in columns 4 and 8. In the case of Turkey, for example, the expected

⁴⁵ Statistical tests based on the theory of runs ignore the absolute values in a time series and observe only their signs. That is, they are concerned with the direction of changes in a given time series (see Baillie and McMahon [1989]).

⁴⁶ For the formula for the expected number of runs and its standard error, see Baillie and McMahon (1989).

Table 8. Efficiency in Equity Markets: Non-parametric Tests (Actual and Expected Runs)

	Daily Data 1/				Weekly Data 2/			
	No. of Sign Changes	No. of Runs of One Sign	Total No. of Runs	Total No. of Expected Runs	No. of Sign Changes	No. of Runs of One Sign	Total No. of Runs	Total No. of Expected Runs
Jordan	Positive	90	20		124	47		
	Negative	75	29	51	99	46	96	115.6 ^a
	Zero	3	2		3	3		
Turkey	Positive	140	62		120	55		
	Negative	137	63	127	103	52	110	116.3
	Zero	2	2		3	3		
Greece	Positive	142	62		110	52		
	Negative	137	52	114	116	50	102	113.9
	Zero	0	0		0	0		
India	Positive	151	60		121	55		
	Negative	125	68	131	99	57	117	118.7
	Zero	3	3		6	5		
Philippines	Positive	150	45		122	53		
	Negative	129	53	98	102	54	108	115.1
	Zero	0	0		2	1		

1/ For daily data for all countries except Jordan, the total number of sign changes is 279. For Jordan, for the reason indicated in Table 8, there are fewer observations and the total number of sign changes is 168.

2/ For weekly data, the total number of sign changes is 226.

a,b,c indicate that the observed and expected runs are significantly different from each other at the 1, 5 and 10 percent level respectively.

number of total runs (positive, negative, and zero) for daily data was 142.5, as compared with the actual number of runs of 127. The normalized test statistic showed that the null hypothesis of independence of runs could be rejected at the 10 percent level of significance. Similarly, for Jordan the null hypothesis could be rejected at the 1 percent level. As for the other three countries, the differences between actual and expected runs were also highly significant for Greece and the Philippines. Therefore, with the exception of India, in each case the actual number of runs fell significantly short of the total expected number, thus implying positive serial correlation.

A comparison of the total number of observed and expected runs for weekly data series reveals a rather different picture. While for Jordan the null hypothesis is again rejected at the 1 percent level, for none of the other countries is the difference between the actual and the expected number of runs statistically significant.

To sum up this section, the results of the econometric exercises suggest that there are some differences between the operational efficiency of the two most active Middle Eastern equity markets. While the Turkish market exhibits greater price volatility, it also appears less likely to have serial dependence in prices, that is, the behavior of equity prices provides greater support to the weak form of the efficient market hypothesis. These results are consistent with the increasing depth and liquidity of the Turkish market. However, taking all the statistical results together, it is also the case that the behavior of both markets is not markedly different from that of a sample of other emerging markets. This, in turn, suggests a number of similar underlying factors impinging on the operational efficiency of emerging equity markets. Such factors are discussed below.

Developing and improving equity markets in Middle Eastern countries

Notwithstanding their relatively limited development to date in most Middle Eastern economies, there is increasing recognition among policy-makers as to the beneficial role of equity markets in enhancing the process of mobilizing and allocating resources in support of growth and development. If one considers the experience of emerging markets in other regions, there are two broad types of conditions which are important in this regard. First, the macro-economic environment has to be conducive to the development and growth of private sector enterprise. Secondly, the structure of equity markets must be

strengthened through appropriate policies in the areas of information and accounting mechanisms, market regulation and supervision, property rights, pricing efficiency, and taxation regimes.

Given the considerable economic potential of the Middle East and the valuation adjustments in many of the other emerging equity markets, there would appear to be favorable prospects, *a priori*, for significant mobilization of funds from domestic, regional and external investors. Indeed, not only are there indications of a significant amount of portfolio funds in the hands of industrial country investors which could move into these markets, there is also a pool of offshore Middle Eastern savings that could be expected to be reflected in inflows to equity markets in the region. Finally, equity markets could provide the scope for increased trading of Islamic-based financial instruments.

Despite differences among countries in the region, there are indications that several of the factors that contributed to the growth of stock markets in Asia and Latin America are present in the Middle East region. Thus, there have been efforts in several countries in recent years to implement reforms in the fiscal and monetary sectors, reduce inflationary pressures, and strengthen external sector performance. Moreover, some countries have experienced significant private capital inflows as well as reverse currency substitution (e.g. Egypt during 1991-93).

It is clear from the earlier analysis that, from a macroeconomic perspective, the key factors determining the future evolution of equity markets in Middle Eastern countries and their relation with international capital markets are the domestic macroeconomic policy stance and the status of external financial relations. These will remain the key issues in influencing investors' perceptions of credit and transfer risk. To this end, appropriate aggregate demand management policies must be accompanied with greater emphasis on structural reforms so as to enhance the supply responsiveness of Middle Eastern economies, thereby reducing their vulnerability to unanticipated exogenous shocks and improving their social sector performance.

In light of the analysis attempted in this paper, it is also evident that Middle Eastern countries need, in addition, a set of policies aimed specifically at enhancing demand for and supply of equities. Even if there are few Western-style share offerings, stock markets could receive a boost from a privatization process whose *raison d'être* lies in the need to address public sector ineffi-

ciencies as well as to progress towards a level playing field for public and private sector activities. Indeed, as illustrated by the experience of other developing countries (especially in Latin America), the successful implementation of privatization programs may be viewed as having a two-way causal relation with equity market developments - acting both to facilitate and to require the growth of domestic equity markets and their internationalization.

Other types of policies would entail improving the efficiency of intermediation; reducing tax-induced distortions; improving the flow of information; and strengthening market surveillance.⁴⁷ Basically, policy must be directed at establishing the conditions for clear property rights; having effective settlement and custody systems; implementing transparent trading conditions and a level playing field among financial instruments; and providing for appropriate capital and dividend repatriation.

To this end, company laws and stock market regulations need to be clarified and overhauled in several Middle Eastern countries. Share transfer procedures also need to be simplified. In several countries, steps are needed to reduce distortions arising from the differentiated tax treatment of financial instruments.⁴⁸ There is also need for a comprehensive review of factors affecting the participation of non-residents.⁴⁹ The lessons from Turkey are instructive in this regard. As in several other countries, a significant feature of the development of the Turkish market has been the willingness of the government to encourage foreign investor participation in support of equity market broadening and in channeling resources to productive investment activities. First, the CMB, which governs stock market activities, has eliminated limits on foreign holdings in listed companies. This also applies to privatized state-owned concerns. Secondly, since 1986 stock dividends to both domestic and foreign shareholders have been tax-exempt. Capital gains tax rates for foreign investors have been reduced so that the same rates and regulations apply as

⁴⁷ Several of these issues are discussed in Abisourour (1993). The specific cases of Egypt and Jordan are discussed in Fag El-Nour (1994) and Toukan (1994), respectively.

⁴⁸ Interestingly, equity is at a disadvantage in Morocco compared to investment in Treasury instruments, while the opposite situation prevails in Tunisia.

⁴⁹ Bates (1994) classifies the major markets in the Middle East as follows: Egypt, Iran, Israel, Jordan, and Turkey as open to foreigners; Bahrain, Oman and the United Arab Emirates as being "restricted markets"; and Kuwait and Saudi Arabia as being closed markets. His analysis does not cover the Maghreb countries.

for domestic investors. Both the stock and bond markets are open to foreign investors with guaranteed repatriation of proceeds, so that shares can be sold and proceeds and dividends repatriated without restrictions. However, foreign shareholders must obtain government permission in order to exercise voting rights with respect to shares in Turkish companies.

In the case of Egypt, as part of the economic reform program, a comprehensive Capital Market Law was promulgated in June 1992 and became effective in April 1993. This law has revamped the legal framework for the securities market, thereby facilitating the participation of foreign investors and allowing competition in the provision and pricing of market services.⁵⁰ For example, in order to increase confidence on the part of investors, provisions have been made which forbid insider trading, cornering trading practices and price manipulation. Companies issuing new securities to the public are also required to apply international accounting standards. In addition, regulatory framework and arbitration procedures have been improved significantly as a result of the establishment of the Capital Market Authority as an independent authority entrusted with all matters related to the development and regulation of the securities market. There are also considerable operational improvements underway in both primary and secondary markets.

In the case of Morocco and Tunisia, the supply of securities is likely to increase significantly in the near future as a result of the commitment to privatization assumed by the government in both countries. In Morocco as well as Tunisia, the regulatory regime has also been changed so as to attract both domestic and foreign capital to the stock market. Particularly in Tunisia, existing private companies gain tax advantages if they list, the capital gains tax has been abolished, and dividends are free from income tax.⁵¹

Equity flows to emerging markets in the Arab countries will also be influenced by geopolitical conditions in the Middle East. Specifically, foreign capital inflows may be expected to respond positively to the achievement of a comprehensive, just and durable peace in the region. The economic rationale for this is based on three main elements:⁵² First, a comprehensive, just

⁵⁰ For details, see Fag El-Nour (1994).

⁵¹ Morland (1993).

⁵² El-Naggar and El-Erian (1993).

and durable peace provides the possibility for a simultaneous cross-country reduction in military expenditures. With the potential for countries in the region to achieve the appropriate level of security at a lower resource cost, such freed resources may be directed to more productive activities, thus contributing to further improvement in the economic environment. Secondly, a comprehensive and durable peace would also impact favorably on country-specific risk through the ensuing reduction in the geopolitical risk component. Finally, these direct benefits may be expected to enhance the potential for joint ventures as well as for the development of regional infrastructure - factors which could contribute to an expansion in foreign trade and investment.

In concluding this section, it is important to stress the need for the simultaneous strengthening of the banking market; notwithstanding the relatively more developed nature of this market, such an initiative would avoid the lopsided development of the financial sector. Indeed, a sound and competitive banking system plays an important role in fostering the development of efficient capital markets. Hence, policy efforts to develop capital markets should not come at the expense of the strengthening of the banking system. Interestingly, several of the measures required for the latter - especially those affecting the enabling environment - are also essential for capital market deepening and broadening.

Concluding remarks

Given the external financing environment facing developing countries in the 1990s, equity markets may be expected to play a major role in mobilizing resources in support of growth and development efforts. Indeed, several developing countries in Latin America and Asia have succeeded in the last few years in improving the operation of their domestic equity markets as well as in attracting funds in the form of both capital repatriation by residents and external portfolio investments. In addition to direct benefits in the form of a larger pool of investment capital, this process has led to a number of indirect benefits, such as opening up a larger set of financial facilities (including market-based hedging instruments); improving the operation of price signals; and enhancing the disciplinary role of market forces at both the micro and macro-economic levels. The process has also entailed certain risks that require the concurrent strengthening of economic policy, prudent debt management, and appropriate prudential regulation and supervision.

There is increased recognition in Middle Eastern countries as to the need to broaden domestic equity markets significantly and to intensify their process of internationalization. This comes at a time of pressures on aid flows, increased international competition for private capital, and an uncertain environment for the region's terms of trade. The historical experience of countries in the region, as well as the more general experience of developing countries, suggest that there is a clear and strong potential for Middle Eastern equity market development and internationalization - a process that would be enhanced by, and contribute to, the beneficial medium-term economic impact of a comprehensive, durable and equitable peace in the region. Indeed, qualitative and quantitative analyses of these markets point to a number of similarities with other emerging markets. Moreover, as Middle Eastern markets develop and broaden, the speed with which they react to new information would increase, thereby enhancing their efficiency and, more generally, increasing investors' confidence as well as strengthening the role of such markets in the mobilization and allocation of funds.

The success of Middle Eastern countries in enhancing the role of equity markets in support of growth and development efforts depends on four key factors internal to the economies of such countries: First, their success in reducing perceptions of country-specific risk through the sustained implementation of adjustment and reform policies; secondly, maintaining progress in strengthening the external payments regime, including normalized relations with creditors; thirdly, specific investment opportunities associated with the implementation of privatization programs in the region; and finally, the ability of authorities to address institutional and legal rigidities inhibiting capital market deepening and, more generally, the balanced development of financial markets.

Appendix 1

Stock Prices and Price-Earnings Ratios

With regard to the behavior of stock prices, data are only available on a sufficiently systematic basis for Turkey and Jordan. In the case of the other countries, the limited availability of regularly traded stocks undermined, until recently, the construction of relatively representative price indices.¹

The stock price index and the index of total returns in Jordan declined during the late 1980s. Since 1990, however, the performance of the ASE index has been improving sharply, with the index registering significant gains in 1991 and 1992. In addition, the index of total returns also improved markedly.² In 1992 the stock price index increased by 31 percent, making the ASE one of the best performers among the emerging stock markets. The increase in the index was broad based, with the industrial sector registering the best performance, followed by banking, insurance, and selected services. Total value and volume of transactions also increased almost threefold to the equivalent of about JD 880 million in 1992. These developments were associated with the marked improvement in economic and financial performance and indications of considerable repatriation of capital by residents. Indeed, it appears that most of the market participants were Jordanian (85 percent), although residents of some neighboring countries also participated in the stock market. Foreign participation of residents from non-neighboring Arab countries was relatively limited.

The price and total return tendencies continued into 1993, with increased influence on the part of foreign investors. In domestic currency terms, the stock price index increased by nearly 24 percent, with an increase in the total return index of nearly 27 percent. The continuation of high activity in the market has also been related to the leveling off of real estate prices. It is expected that the legalization of mutual funds will provide a further impetus.

With regard to price-earnings (PE) ratios, the Jordanian market was selling at a PE of 12 3/4 on the basis of estimated 1992 earnings. Unlike Egypt, and to

¹ Some illustrative, albeit partial, data on equity prices in Egypt are provided in Appendix Table 2.

² Toukan (1994) provides a detailed assessment of the ASE's performance and market evolution.

a lesser extent Morocco and Tunisia, the Amman market did not have to compete against rates of return on fixed interest deposits well in excess of the rate of inflation. By the end of January 1994, the price-earnings ratio in the ASE amounted to 22.

In the case of Turkey, share prices on the ISE declined sharply in 1992, with the local composite index falling 46 percent in US dollar terms. The weakness of the equity market was due, in large part, to the high real returns on bank deposits and Treasury issues, continuing high budget deficit, and political uncertainties. Favorable corporate earnings, along with reforms to the Capital Markets Law, had little immediate impact in terms of higher share prices. In 1993, however, the Turkish market soared, with the price index increasing by nearly 215 percent in US dollar terms. The market's extraordinary upturn was due to a number of factors, including the lagged effects of capital market reforms, continuing favorable corporate earnings, and expectations of a major privatization drive. In addition, the announcement of tax and expenditure reforms gave rise to expectations of improved fiscal performance and a reduction in domestic financial imbalances. These factors led to strong institutional interest, with considerable inflows of foreign portfolio capital moving into equities. The process was given further impetus by the clear evidence that over several preceding years there had been zero, or even negative, correlation between price changes in industrial country markets and in Turkey (Appendix Table 1), thereby providing a strong basis for risk reduction through portfolio diversification. The price-earnings ratios in Turkey increased from 7 at the end of 1992 to nearly 18 by the end of June 1993 and 36 by the end of December 1993. This tendency was reversed in the first half of 1994, during which time the market experienced a sharp correction in the context of a sharp depreciation of the exchange rate, mounting financial imbalances, and concerns about increasing country risk.³

³ Turkey's credit rating was downgraded in 1994.

Appendix Table 1. Correlation Coefficient Matrix of Price Indexes (US\$: five years ending December 1992)

Jordan	1.00							
Turkey	-0.03	1.0						
Greece	0.14	0.37	1.0					
India	-0.10	0.15	0.06	1.0				
Philippines	0.22	-0.05	0.20	-0.08	1.0			
Japan	0.18	0.01	0.06	-0.14	0.16	1.0		
United Kingdom	0.34	-0.04	0.12	-0.03	0.24	0.52	1.0	
United States	0.26	-0.15	0.0	-0.16	0.42	0.30	0.57	1.0
							United	
	Jordan	Turkey	Greece	India	Philippines	Japan	Kingdom	U.S.A

Sources: IFC Global Price Index Databank.

Appendix Table 2. Egyptian Capital Market Price Index 1/

	General Price	Subscription	
	Index	Public	Closed
1985	58.9	60.4	57.9
1986	62.8	70.1	56.5
1987	64.2	73.2	56.4
1988	64.0	72.8	56.4
1989	64.4	72.4	57.5
1990	63.1	68.4	58.5
1991	100.0	100.0	100.0
1992	108.9	115.3	103.4
1993	135.7	158.2	117.4
March 1994	158.7	210.1	118.9

1/ Data are for end of period.

Source: Fag El-Nour (1994).

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Comments

David Cobham

The remarks in this essay will focus on the potential role of equity markets in developing countries as discussed in the paper by El-Erian and Kumar. A few brief comments will then be made regarding other aspects of the paper, followed by a discussion of some more general issues.

El-Erian and Kumar propose three main kinds of benefits that could be expected from the development of equity markets. First, they argue that stock exchanges can generate a larger pool of capital to finance productive investments. While it is common ground that the existing financial institutions and markets in many Middle Eastern countries are imperfectly effective in mobilizing domestic savings, it is not clear whether stock exchanges could tap additional domestic savings beyond those that would be tapped by an efficient banking system. The authors' argument for placing the emphasis of policy on the development of equity markets rather than the upgrading of the banking sector therefore hinges on the ability of emerging Middle Eastern equity markets to attract large international capital flows. However, some caution is surely required here: much of the growth of flows to emerging capital markets in recent years has been due to conjunctural factors (many of them mentioned in the paper), and much of the Middle Eastern capital held abroad does not originate from, and cannot therefore "return" to, those countries where the shortage of funds for industrial and other development is most pronounced, so that flows may be a great deal smaller than El-Erian and Kumar envisage.

Secondly, the authors argue that stock markets are more conducive (than banks) to the financing of venture capital and technical progress. Casual empirical evidence at least suggests that this is far from obvious: in the United Kingdom, for example, banks and institutional investors have been encouraged by governments to set up special venture capital institutions precisely because of the perceived inadequacy in this area of both stock markets and conventional banking. In addition, El-Erian and Kumar argue that equity eliminates the probability of premature withdrawal of capital from firms; but if this is actually the case, lenders' control over borrowers will be weakened, and that will allow managers greater freedom to pursue their own objectives instead of policies that would maximize profits for the firm and (in principle) maximize the social returns on capital.

Thirdly, the authors present some indirect benefits of equity market development which also need to be more firmly based. For instance, while a reduction in country risk perception is desirable, it is not obvious that it requires a major growth of equity markets rather than sound macroeconomic policies coupled with the rationalization of the banking system.

At the same time, El-Erian and Kumar ignore some possible disadvantages of the developments that they suggest. Large inflows of international capital would surely create pressure on firms for the kind of dividend smoothing that exists in Anglo-Saxon stock markets, but then the principal attraction of equity finance to firms (that the recurrent cost varies with the firm's profits) would disappear. Similarly, while international equity flows obviously cannot lead to an international debt crisis, there are some alternative disadvantages: on the one hand, equity finance requires more intensive screening and monitoring by the lender, so that initial flows are likely to be smaller and/or more volatile than the corresponding debt flows (where the debt contract minimizes monitoring costs); on the other hand, changes in international confidence may severely affect not merely the flows into LDCs, but also the prices of assets and the wealth of LDC shareholders.

In addition, El-Erian and Kumar show no awareness of the extent to which the Egyptian stock markets prior to the nationalizations of the 1960s functioned as mechanisms bound up with the foreign sector in a highly-segmented economy. The significance of this is not straightforward, but at the very least it means that the privatization of previously nationalized enterprises will not necessarily create a new demand for the services of stock exchanges. The comparative market data provided by the authors are interesting as far as they go, but stock market comparisons are particularly subject to qualifications. It is worth noting that turnover in the London Stock Exchange is heavily concentrated in a few hundred shares, while at the other end of the scale the 200-300 "smallest" shares can be traded through the LSE's market-maker system only with great difficulty and cost. This is, of course, not just a statistical matter, but rather a more fundamental point: even well-established stock markets function efficiently only for a relatively small number of heavily-traded securities. At the same time, the authors' failure to provide data for the medium-size stock markets of Germany and France is consistent with an implicit assumption about the importance of equity markets in developed countries which ignores the very minor role which they played in the industrialization

of these countries (or that of Japan, where the stock market is perhaps best described as idiosyncratic).

An important omission is the lack of any data on spreads between bid- and ask-prices. Roe and Popiel (1988) refer to spreads of 10-15 percent in LDC stock markets.¹ If such figures are typical, then it is not worthwhile for investors to shift their funds from one company to another unless there are very large differentials in returns and dividends, but in this case stock markets are unlikely to be efficient in allocating financial resources to the best investment opportunities. Efficiency of this sort, it may be suggested, is much more important in evaluating the contribution that equity markets can make to development than the standard efficient markets hypothesis tests carried out in the paper.

Subsequently, El-Erian and Kumar discuss policies that could help to develop and improve equity markets in Middle Eastern countries: stable macro-economic policy; privatization; and what might be called the establishment of "basic conditions" such as property rights and company law, settlement procedures, capital market regulation, and so on. They also note the importance of "geopolitical" conditions. The experience of the transition economies of Eastern Europe shows that the establishment of such "basic conditions" is much more difficult and problematic than many economists had imagined, though it should be noted that many of these conditions need to be fulfilled even if major equity developments are not envisaged.

However, the authors could well have mentioned also the somewhat nebulous factor of "financial market culture": the experience of Western European countries demonstrates that, while technical improvements such as the introduction of efficient settlement systems have been implemented more easily and rapidly in Germany and France than in London, German and French attempts to generate the kind of financial market culture that is so prominent in London have been much less successful.

Finally, it would be fitting at this point to return to the wider question of market-based versus bank-based financial systems. It is important to emphasize that this question is not just about the size of stock exchanges. Indeed, one of

¹ Roe, A., and P. Popiel (1988). *Managing Financial Adjustment in Middle-Income Countries* Washington, D.C.: Economic Development Institute, World Bank.

the world's largest stock exchanges can be found in the most unequivocally bank-based financial system (Japan). Instead, the key issues in the relations between banks and non-financial firms lie elsewhere, namely: corporate governance; informational imperfections; and the position and role of stakeholders other than shareholders. If bank-based systems are to be preferred to market-based systems for LDCs, it is for reasons connected to such matters; but on these issues El-Erian and Kumar are silent.

Saad Andary

The comments that follow revolve mainly around the purpose of this paper as stated in its introduction. In reviewing the role of equity markets in Middle Eastern countries, the aim of the paper is purportedly to analyze potential benefits, such as the availability of a larger pool of investible capital, enhanced access to market-based hedging instruments, and larger foreign direct investment inflows. It also points to the economic and financial implications of challenges arising from capital market integration with industrialized countries.

Concerning the larger pool of investible capital, there seems to be a discrepancy in the data, which in itself has been extracted from secondary sources. The two figures quoted in the paper need reconciliation: while the first figure estimates the Middle Eastern private sector's foreign asset holdings at over \$700 billion, the second figure places the pool of offshore Middle Eastern savings at only \$350 billion.

The mere availability of a larger pool of investible capital in the Middle East is not sufficient to induce the expansion of local markets. Indeed, the latter are narrow and shallow, and market deepening cannot proceed in the absence of a productive base, which is not clearly identified in the paper. The result seems to be market concentration and riskiness, as evidenced in the excessive volatility of prices; for instance, prices of stocks in Turkey declined by 46 percent in 1992 and increased by 215 percent in 1993, as noted by the authors.

Associated with this volatility is the question of whether the resulting high risks may attract external savings which are non-speculative and more permanent in nature than those of bank financing. It is not enough to present a correlation coefficient matrix; in view of the absence of a representative sample of Middle Eastern countries, the latter does not say much about potential

gains from diversification at the regional level, but rather supports international diversification. The fact that capitalization relative to GDP in some of the emerging markets is larger than in the United Kingdom or the United States signals the strength of speculative forces rather than the emergence of a healthy development.

One should therefore be careful when emphasizing the benefits to industrialized countries arising from "higher returns on developing country equity markets." All these account for implicit costs which, if the bubble does not burst, may have to be borne by future generations in these developing countries. The international debt crisis of the past two decades might well turn into an emerging country equity crisis. Portfolio risk reduction currently achieved through greater diversification may sow the seeds for future risk maximization unless it is controlled by appropriate tax and regulatory regimes specifically relating to capital gains and anti-trust laws.

The paper states that "active regional equity markets include Bahrain, Kuwait, Iraq, Israel, Lebanon, and Oman." This is not totally accurate; indeed, the equity market in Iraq is known to have been activated only recently. Likewise, that of Lebanon remains closed; however, an informal secondary market was set up in late June 1994 to provide liquidity to the shares of *Solidaire* - the real estate development company operating in downtown Beirut. This market is being fashioned along the lines of the OTC markets currently in operation in Saudi Arabia and the United Arab Emirates.

Overall, one very positive attribute of the paper is that it raises many questions and outlines a body of related issues that will constitute useful topics for future research.

8

Gulf Capital Markets: Development Prospects and Constraints

Henry Azzam

Introduction

Rather than being a luxury, capital markets are an essential pre-requisite for the financial and economic development of any country. This is especially true for those countries where the dominant role of the state in economic and corporate life is gradually being reduced, and where there are plans to privatize several public sector companies, as is the case in the various Gulf states. However, a privatization drive cannot succeed without a fully-functioning stock market supported by the necessary legislative infrastructure and the availability of sophisticated financial services.

The impetus for equity markets in the Gulf region is coming from local investors looking for new investment channels as well as from financial, industrial, utilities, and services companies for which public issues have become a realistic option to raise money for expansion plans. Furthermore, the development of equity markets is being actively encouraged by the governments of Gulf states currently experiencing tight budgetary conditions. The privatization of public sector companies is proving to be a viable option to reduce the financial burden on governments, mobilize private sector resources, and increase the efficiency of several public sector institutions.

In terms of capitalization, Saudi Arabia has the largest stock market in the Arab world, with a market capitalization of \$51 billion in 1993, but it is likely to remain closed to foreign investors for the time being. The smaller stock market of Bahrain is the most sophisticated in the region and has plans to become an international exchange. Oman's stock market is relatively small, but it is gaining depth and is becoming more accessible to foreign investors. The Kuwaiti market has become active once again; however, turnover volume has shrunk considerably, down to one-third the level that prevailed before the Gulf crisis. Qatar and the United Arab Emirates - the two Gulf countries without formal stock trading systems - have recently announced plans to establish stock exchanges.

Table 1: Gulf Stock Markets: Major Indicators 1993

	GDP (\$ billion)	Market Capital- ization (\$ billion)	No. of Companies Listed	No. of Shares Listed (million)	Average Value Shares Traded Daily (\$ million)	Average Number Shares Traded Daily
Saudi Arabia	120.1	51.0	66	702	47.562	165,226
Kuwait	21.5	10.1	47	3,786	7.245	7,986,649
Bahrain	4.0	5.6	33	5,000	1.036	1,600,000
Oman	9.9	1.6	68	220	0.199	108,982
UAE	35.9	9.2	77	n.a	0.272	75,000

Source: MEES, 9 May 1994, and information from various stock exchanges in the region.

By the standards of emerging capital markets, the stock markets of the Gulf region are still small (Table 1). The combined capitalization of 38 emerging markets in Asia, Latin America, Africa and Eastern Europe reached \$1,000 billion last year, from less than \$100 billion in 1983. By contrast, total capitalization in the Gulf region was estimated at \$77.4 billion in 1993, with the Saudi market accounting for 65 percent of that. As a percentage of GDP, the market capitalization of the six Gulf states stood at around 40 percent in 1993, as compared to 50 percent in other developing countries and 80 percent in the developed world. The number of active investors in the Gulf region as a percentage of the total population is still very small (less than 5 percent on average), as compared to 20-30 percent in the developed world. Nonetheless, the experience of other countries shows how stock markets can easily come to life within a relatively short period of time (e.g. Turkey, Indonesia, and Argentina), provided economic conditions are right and the necessary legislation is implemented.

Gulf governments have for sometime now been issuing public debt instruments in one form or another. The aim is not only to help finance budget deficits, but also to make available an effective tool of monetary policy and to create new investment channels for banks and the private sector at large. The viability of public sector borrowing has already been tested. The years ahead should see an increase in the volume of various government bonds and bills issued, the fine-tuning of flows into primary and secondary markets, and a refinement of prices. As the region's financial markets gain depth, and following the pricing benchmarks that have been established by government sec-

tor banks, other public and private sector corporations may be encouraged to issue their own debt instruments.

Bahrain and Kuwait are leading the way in this respect. The Bahrain Commercial Facilities Company (BCFC) has launched in May 1994 a public bond issue worth BD 7 million (\$18.6 million) to finance local credit activities, and incidentally, this was the first corporate issue of bonds in Bahrain. Likewise, the Kuwait Real Estate Bank issued a bond worth KD 20 million (\$66 million) in May 1994, and Aluminium Bahrain (Alba) is planning to launch later this year a \$50 million corporate bond.

Gulf capital markets: signs of change

Over the last two years, Gulf equity markets have emerged as a serious force within the region's capital market structure. A series of public share issues in Saudi Arabia (12 issues since the beginning of 1992), Bahrain (seven issues), Oman (two issues), the UAE (one issue), and Qatar (one issue) has shown that private capital can be raised to fund the expansion of local industries (Tables 2 and 3).

For the moment, the amount of capital raised on the region's stock markets is not large. In Saudi Arabia, for instance, SR 1.26 billion (\$336 million) were raised through either public offerings or capital expansion over the past three years. In Bahrain, publicly-quoted companies have raised \$82 million since the beginning of last year, while the corresponding figure in Oman reached \$150 million. However, such modest amounts contrast sharply with an almost total absence of public offerings in previous years. When Emirates Bank International floated the United Property Company in Dubai in December 1993, it was the first public offering since the new UAE Companies Law was passed in 1984. Similarly, when the Kuwait Investment Authority (KIA) launched its KD 25 million (\$82 million) local investment fund in May 1994, it was the first public offering in Kuwait since 1983.

The massive oversubscription of the few offerings that came to the market in the last few years indicates that ample equity funds are available for investing. In Saudi Arabia, for example, the amount actually subscribed by investors was as high as SR 9 billion (\$2.4 billion) - over seven times the amount being offered, namely SR 1.26 billion (\$336 million).

Table 2: Public Share Issues in Saudi Arabia, 1992 - 1994

Name of Comany	Date of Issue	Amount*
Tabuk Cement Company	Mar 1994	SR374 million
Al-Riyadh Development Company	Nov 1993	SR668 million
Al-Ahsa Industrial Development Company	Jun 1993	SR110 million
Al-Jizan Agriculture & Development Company	Apr 1993	SR156 million
Saudi British Bank	Feb 1993	SR684 million
Saudi French Bank	Dec 1992	SR1,140 million
Saudi Cairo Bank	Nov 1992	SR1,680 million
Bank Al-Jazira	Sep 1992	SR750 million
Al-Bahar Investment Company	Apr 1992	SR30 million
Saudi Industrial Development Company	Apr 1992	SR246 million
Riyad Bank	Jan 1992	SR3,800 million
Saudi Pharmaceutical Industries and Medical Appliances (SPIMACO)	Aug 1992	SR545 million

Source: MEES, 9 May 1994, and information from various stock exchanges in the region.

* The amounts quoted do not take account of bonus or rights share issues. Qassim Cement Company raised its paid-in capital in June 94 by 50 percent through a one for two rights issue funded from reserves. At the same time as shares were offered to the public, Saudi British issued SR400 million in bonus shares, Saudi French SR300 million, SPIMACO SR50 million and Riyadh Bank SR 1 billion.

At present, regulations in Gulf equity markets restrict investment to Gulf Cooperation Council (GCC) citizens. However, this is changing fast. For example, resident expatriates are allowed for the first time to invest in the fund launched by KIA, and the fund itself will be listed on the Kuwait Stock Exchange. In Oman, other GCC nationals are allowed to purchase up to 49 percent of the shares of listed companies. In addition, non-GCC nationals will be able to invest in the local stock market for the first time through the \$45 million Oryx Investment Fund launched by an offshoot of Baring Securities and the local Oman National Insurance Company. Two Japanese banks - including Nomura Securities - have approached the Muscat Stock Exchange with a view to establishing similar funds.

**Table 3: Public Share Issues in Bahrain, Oman, UAE and Qatar
(1993 - 1994)**

Name of Comany	Date of Issue	Amount*
Oman Cement Company	July 1994	OR15 million
Bahrain Leisure Company	June 1994	BD2.75 million
Commercial Bank of Qatar	April 1994	QR35.2 million
Al-Ahli Commercial Bank of Bahrain	May 1994	BD10 million
Bahrain Hotel Company	Mar 1994	BD3.08 million
Gulf Trading & Food Processing Co. ((Trafco) of Bahrain	Jan 1994	BD3.9 million
National Bank of Oman	Feb 1994	OR3.8 million
United Property Company of UAE	Dec 1993	Dh140 million
The Oman-Emirates Investment Company	Dec 1993	OR9 million
Bahrain Insurance Company	Sep 1993	BD1.2 million
Bahrain Commercial Facilities Company	Apr 1993	BD7.875 million
Bahrain Aluminium Extrusion Company	May 1993	BD2 million

Source: MEES, 9 May 1994, and information from various stock exchanges in the region.

In Bahrain, new regulations have recently been introduced which allow foreigners to own shares on the local stock market. Expatriates who have resided in the country for more than three years are allowed to own shares up to one percent of the capital of a single company on an individual basis. Collectively, such investors may own up to 24 percent of a company. Investors may be either individuals or companies. The shares of four institutions listed on the Bahrain Stock Exchange (BSE) were already open to foreign investors, including non-residents. These are the Arab Banking Corporation, Bahrain International Bank, Investcorp, and TAIB Bank (TAIB's shares were listed on the exchange for the first time in April 1994). The Saudi market, however, remains closed to non-GCC investors.

Saudi Arabia

Saudi Arabia has the largest stock market in the Gulf region in terms of capitalization, at around SR 191 billion (\$51 billion) at the end of 1993, and the paid-up capital of listed companies was around SR 65 billion (\$17.3 billion). As a percentage of GDP, Saudi Arabia's market capitalization reached 42 per-

cent last year. Electricity companies account for the biggest share, with 44.1 percent of total market capitalization, followed by industry firms, including cement companies (33 percent), services (12.3 percent), banks (7.9 percent), and agricultural companies (2.7 percent). There are 78 companies listed on the Saudi exchange, but only 66 are publicly tradable. Only shares of Saudi companies may be traded in the Kingdom, and these are normally acquired by Saudi citizens. In special circumstances, specified portions of floated shares were made available to other GCC citizens, such as the 1984 Saudi Basic Industries Corporation (SABIC) issue, and more recently the Tabuk Cement Company, among 13 other Saudi companies.

Close to 288 million shares - 41 percent of total shares listed - are held by the Saudi government, while foreign entities hold 27 million shares, or 3.8 percent of the total. Most shares held by the Saudi government and by foreigners are not traded in the market. This means that only 396 million shares - 55 percent of total shares outstanding - are actually available for trading. Even among those shares available for trading, one finds a concentration of large blocks in the hands of investors who are less likely to sell their holdings because they do not wish to lose board representation or voting influence. The depth of the Saudi stock market, that is, the value of shares traded as a percentage of the total market value of shares outstanding, has generally been small. In 1993, the total number of shares traded was around 60 million, or 8.5 percent of the number of listed shares.

The official stock market index was down 5.05 percent in 1993, following a rise of less than 1 percent in 1992 and a 91 percent increase in 1991 (Table 4). By the end of June 1994, the index stood at 138.01 - 23 percent lower than its level at the end of 1993. The index dropped 9.5 percent in the second quarter, after having declined 15 percent in the first quarter. The slowdown in overall economic activity, tight liquidity conditions in the country, and the rising SR interest rates since the beginning of the year have all contributed in varying degrees to the slump in stock prices. The policy of Saudi banks to cut down on their financing of speculative share-buying added to the stampede. With share prices on the decline and in an effort to salvage the value of the collateral held in the form of stocks, banks tend to sell shares whenever there is a buyer at a reasonable price. The 23 percent decline in share prices in the first half of this year has undervalued many stocks at current levels. Furthermore, the share prices of many companies have now dropped below their book value.

Table 4: Saudi Arabia, Official Stock Market Indices, Percent Change by Sector and Total

End of Period	Banking		Industry		Services		Agriculture		Electricity*		Cement*		Total	
	Index	% Change	Index	% Change	Index	% Change	Index	% Change	Index	% Change	Index	% Change	Index	% Change
1990	190.09	(13.01)	142.81	4.83	57.59	(7.23)	101.10	(9.95)	53.95		94.72		97.98	(9.85)
1991	436.92	129.85	291.41	104.05	118.43	105.63	138.13	36.63	58.65	8.71	139.67	47.46	187.77	91.64
1992	498.72	14.14	259.01	(11.12)	137.75	16.31	154.97	12.19	60.36	2.92	210.02	50.37	188.87	0.59
1993	552.45	10.77	264.80	2.24	139.52	1.28	150.87	(2.65)	62.03	2.77	224.24	6.77	200.44	6.13
Q1	499.63	(9.56)	229.00	(13.52)	114.11	(18.21)	139.21	(7.73)	63.29	2.03	194.77	(13.14)	181.50	(9.45)
Q2	501.53	0.38	235.33	2.76	118.78	4.09	131.42	(5.60)	64.46	1.85	200.52	2.95	184.41	1.6
Q3	491.30	(2.04)	222.11	(5.62)	124.32	4.66	110.19	(16.15)	62.62	(2.85)	193.34	3.58	179.33	(2.75)
Q4														
% Change 1993		(1.49)		(14.25)		(9.75)		(28.90)		3.74		(7.94)		(5.05)

* The official index for the electricity and cement sectors was introduced in the first quarter of 1991. Before that, cement was considered part of industry, while electricity was part of services.

Source: Ministry of Finance, Official Share Market Indices.

The Saudi Arabian Monetary Agency (SAMA) requires that all trading in Saudi stocks be conducted through banks. The opening of a central trading hall in May 1987 was abruptly cancelled. A computerized screen trading system - the Electronic Securities Information System (ESIS) - was introduced in 1990. Share ownership is transferred electronically from the seller to the buyer through the Saudi Shares Registration Company. Officially, brokers are not allowed to be active participants in the Saudi market, and banks are forbidden to act as market-makers.

A recently-issued royal decree amending the companies' law in the Kingdom has made it possible for corporations to issue preferred stocks, contingent upon the approval of the Commerce Minister. Such non-voting preferred stocks give shareholders the right to receive a certain percentage of the company's net profit of not less than 5 percent of the nominal value of the shares before the profits of the corporation are distributed to other shareholders. It also gives shareholders of preferred stocks priority in the recovery of share capital upon liquidation.

Since 1988, SAMA has been offering a total of SR 1.5 billion of two-year to five-year government development bonds every two weeks. These are officially linked to the profits of unspecified development projects. They have been sold at a discount, and the yield has corresponded closely to a small margin over like-date US Treasury bonds. The spreads for Treasury instruments are approximately 30 basis points in the two-year tranche, rising to 50 basis points for the five-year issue. Other market conditions were taken into consideration when setting the yields. The minimum denomination of bonds offered through the primary market is SR 1 million for banks, dropping to a minimum of SR 50,000 for individual buyers.

Primary distribution is undertaken on a subscription basis, that is, SAMA posts the yield (via the 'earnings' mechanism) at which bonds will be sold in the primary market and at which eligible investors can subscribe any allocation. No actual physical securities are issued. As fiscal agent, SAMA employs a book-entry mechanism specifically to register bond ownership. This pertains to banks and autonomous government bodies, while other retail buyers are deemed to be beneficial owners of the bonds, with registration remaining in the bank's name.

Saudi Arabia started to issue Treasury bills in November 1991. Weekly issues

have maturities ranging from one to 12 months. No actual physical securities are issued (that is, it is a book-entry mechanism), and the amount raised may vary from one week to another. Both bills and bonds can be sold in the secondary market, with banks able to sell them on to customers. Residents and institutions incorporated in GCC countries are permitted to acquire bonds in the secondary market. Saudi banks are allowed to offer mutual funds to the public, either exclusively in government bonds or in a mixture of bonds, bills and stocks. This development has enabled investors with much smaller balances to acquire securities in the Saudi market.

Following the tightening move by US monetary authorities in February 1994, yields on one-month, three-month, six-month, and one-year SR Treasury instruments started an upward trend in tandem with corresponding US dollar rates. Yields on three-month SR Treasury instruments reached 4.95 percent by the end of June, as compared to 4.63 percent for three-month dollar deposits. As a matter of fact, the gap between SR and US dollar interest rates widened in the second quarter, reflecting tighter liquidity conditions in the SR market. This was mostly due to the decline in deposit creation associated with the general slowdown in economic activity.

Yields across the maturity profile of Saudi Arabia's Government Development Bonds (GDBs) assumed a rising trend from mid-February until the end of June 1994. For example, yields on three-year GDBs declined from 4.9 percent in the beginning of the year to 4.71 percent in the first week of February before rising to 6.73 percent at the end of June, the six-month increase in yields being 183 basis points. This was in line with rising yields across the maturity profile of US Treasury bonds. During the first half of the year, yield differentials between Saudi Government Development Bonds and US Treasury bonds of corresponding maturity remained constant.

The beginning of a bear cycle for bonds in February 1994 has provided a challenging test for the Saudi government bond market. In a scenario marked by rising interest rates, and in the absence of a more developed fixed-income market with a less rigid pricing mechanism, demand for Saudi government bonds has been on the decline. Tighter liquidity conditions have prompted banks to invest more money in Treasury bills - where they can repo 75 percent of their holdings - and less in government bonds, where repo facilities are limited to 25 percent. Moreover, rising short-term yields partially compensate banks for the loss of income generated by holding longer maturities with high-

er yields. Higher short-term rates also raise the cost of positive carry, thus discouraging banks from borrowing short term in order to lock higher yields on longer maturities, as they have been doing in the past two years when short-term rates have been on the decline.

For the first time in the Gulf region, the Saudi government started issuing floating-rate notes (FRNs) on August 15, 1994. The first \$280 million FRN issue was well received in the market, and there are indications that more of such issues will be forthcoming. In a scenario marked by rising interest rates, as is the case now, lending at floating interest rates will be more attractive to banks than government bonds with fixed interest rates.

There is no private bond market to speak of in Saudi Arabia. A domestic SR bond existed until 1978, when SAMA imposed a moratorium on SR issues. In the mid-1980s, a few dollar-denominated floating-rate notes were arranged by Saudi banks and offshore banking units in Bahrain for local borrowers in the Kingdom. In addition, a few Saudi banks are exploring the possibility of floating Certificates of Deposit (CDs). If a market for CDs does develop in Saudi Arabia, it will greatly enhance the process of financial deepening in the Kingdom.

Kuwait

Kuwait had the most sophisticated capital market in the Gulf region before the onset of the 1990 Gulf crisis, with active trading in both stocks and bonds. The stock market was reopened in September 1992, and by the end of 1993 there were 47 institutions registered for trading (of which seven were Gulf companies), as compared to 54 before the Iraqi invasion. Total capitalization is estimated at around \$10 billion, down from a pre-crisis level of around \$12 billion. After a boom year in 1993, when record levels were achieved in the share-price index as well as in the volume of trade, the Kuwait Stock Exchange trended lower, and was down by 8.5 percent in the first half of 1994 (Table 1). Market participants reduced their holdings of shares because of concerns that the implementation of the debt-settlement law could lead to a sharp decline in asset values in the country.

Approved in 1993, Ministerial Law No. 235 allows citizens of GCC member-countries to own and trade in the shares of Kuwaiti companies listed on the exchange. The law's most important provision is that GCC citizens cannot

hold more than 49 percent of the total shares outstanding of banks and insurance companies. Several public sector companies are targeted for privatization next year, and investment funds have been established to acquire assets in these companies. The first of such funds was launched by KIA in May 1994, with total capital amounting to KD 25 million (\$82 million). Resident expatriates are allowed to own shares in newly-privatized companies by holding units in this investment fund. Foreigners from outside Kuwait who are interested in joining the fund can do so indirectly, through a locally-established company which will invest on their behalf. Another fund - the Real Estate Investment Fund - was launched on June 20, with total capital amounting to KD 20 million (\$67.7 million). This fund provides the first opportunity for non-Kuwaitis to buy into the local property market.

The Central Bank of Kuwait started in 1987 to issue Treasury bills and bonds with maturities ranging from three months to 10 years. Any person or institution - resident and non-resident alike - can purchase instruments, but it is estimated that 90 percent of the issues stayed with Kuwaiti banks and investment companies. A total of 58 issues of Treasury bills were floated in 1993, with a total value of KD 5.3 billion (\$17 billion). Most issues have a maturity of three and six months. Only one issue of bonds with a one-year maturity has been made since liberation.

Corporate bonds denominated in Kuwaiti dinars and issued in favor of international borrowers emerged in 1986 and were listed on the stock exchange. However, since 1988 a moratorium has been placed on new issues of corporate KD bonds to foreign borrowers. The issuance of KD bonds to domestic corporate borrowers resumed last year, with the Kuwait Real Estate Bank issuing KD 15 million (\$49.5 million) in five-year bonds in order to replace a maturing KD 12 million (\$39.6 million) bond issued in 1988. This bank issued another bond worth KD 20 million (\$66 million) in May 1994 which was managed by the National Bank of Kuwait (NBK). Bonds with a three-year maturity have a coupon of 6.5 percent and were issued at a small discount to yield around 6.6 percent. The only other bond issued in Kuwait over the past three years was offered by the local Commercial Facilities Company.

Bahrain

Bahrain's capital and financial markets are generally considered to be the most advanced in the Gulf region. Indeed, shares had been traded informally

for several years before an official stock exchange was opened in June 1989. At present, 33 companies are listed on the exchange; 21 of these are Bahraini companies, while 12 are offshore entities. Total capitalization in 1993 was estimated at around BD 2.12 billion (\$5.6 billion). Share prices in Bahrain trended lower last year, and dropped further - by around 12 percent - in the first half of 1994.

Among the companies which have recently raised capital through public floatation is the Bahrain Leisure Company, a new company founded to promote tourism. A BD 2.75 million (\$7.3 million) public share was issued on June 6, 1994. The rights offer by Al-Ahli Commercial Bank of Bahrain was fully subscribed. In May 1994, the bank offered shareholders 40 million shares (one for every two already owned) priced at BD 0.25 (\$0.66) each, in order to raise a total of BD 10 million (\$26.5 million). The Bahraini government is planning to sell about 500,000 shares in the Bahrain Aluminum Extrusion Company (Balexco) by the end of 1994, thereby reducing its holdings to 25 percent from the current level of 45 percent. This is part of a drive by the government to privatize profitable firms.

Foreign residents in Bahrain are allowed to invest in the shares of local companies through mutual funds. These funds will eventually be opened to non-residents, and will be listed on the Bahrain Stock Exchange. Market-makers are expected to join stock brokers soon, thereby helping to enhance the liquidity of the market. One initiative currently under study is to permit other GCC companies to list their shares and bonds on the Bahrain Stock Exchange, and this could be followed eventually by the listing of bonds and shares of non-GCC companies as well. Another important initiative under consideration is the cross-listing of private companies by the Bahrain and Muscat Exchanges. This measure would provide investors in both countries with equal access to the two markets.

Bahrain was the first Gulf country to issue government development bonds in 1977. However, by 1986 the need to help finance the country's budget deficit prompted the Bahrain Monetary Agency (BMA) to launch an elaborate system of Treasury bills and bonds, with a debt ceiling set at BD 300 million (US\$797 million). In October 1988, the BMA started to accept tenders for dinar-denominated bills from offshore banking units domiciled in the country.

The first corporate bonds were issued in May 1994 by the Bahrain

Commercial Facilities Company. The three-year bonds were sold to Bahrainis, other GCC nationals, and expatriate residents. A minimum investment of BD 500 (\$1,326) is required, and interest is paid every six months at two percent above the local interbank rate, the minimum rate being five percent. Bonds are traded on the Bahrain Stock Exchange. Later this year Aluminium Bahrain (Alba) is planning to launch a \$50 million bond to finance some of its maturing debt. Bonds will have a seven-year maturity and will be listed on the Bahrain Stock Exchange.

Oman

Oman's stock market is relatively small. When the Muscat Stock Exchange was established in May 1989, there were 71 companies listed. Today there are 93 companies, with a total capitalization of \$1.6 billion. Thirty of these companies are not yet publicly traded and, of the remaining 62 companies, 39 are listed on the main board and 23 on the secondary or parallel market. In addition, companies which incur losses for two consecutive years are automatically demoted to the secondary market.

Financial institutions in the Sultanate have recently been allowed to set up mutual funds in order to invest in the country's stock market. Foreigners can have up to 49 percent ownership in the funds; for tax purposes, such funds are treated in the same way as companies fully-owned by Omani nationals. The tax rate on these companies is five percent on income ranging from OR 30,000 to OR 200,000 (\$78,000 to \$520,000), and 7.5 percent on taxable income in excess of OR 200,000.

A 91-day Treasury bill scheme was introduced for the first time in June 1987. Oman's Central Bank has been dealing only with banks who can bid for their own account or on behalf of their corporate customers. Treasury bills are sold at a discount, and the Central Bank is prepared to buy back bills prior to maturity. Oman issued its first government bonds on July 20, 1991. Five-year development bonds are traded on the Muscat Stock Exchange and are offered to banks and financial institutions in the Sultanate, as well as to all other Omani and foreign residents, whether individuals or institutions.

Oman has started a large-scale program to privatize its public institutions in a bid to absorb excess liquidity, generate additional revenues for the government, and boost the Muscat Stock Exchange. Oman's Ministry of Finance

and Economy floated its 19 percent stake in the National Bank of Oman earlier this year. In 1993, the government sold its shares in the Oman National Insurance Company and Gulf Hotels Company, and it is planning to dilute its holdings in other services and industrial companies as well.

The Oman Emirates Investment Company raised OR 15 million (\$39 million) in a floatation concluded early this year. Similarly, the state-owned Oman Cement Company launched in July 1994 a OR 15 million (\$39 million) public share issue in order to fund expansion plans. This will boost the company's capital to OR 35 million, of which 41.7 percent will be owned by the private sector. Regulations in the Sultanate specify that any company with capital exceeding OR 500,000 must make 40 percent of its shares available to the public when making an initial public offer or when increasing capital.

United Arab Emirates

The United Arab Emirates (UAE) is expected to have a stock exchange later this year. There are now 77 banks and joint-stock companies trading their shares in the unofficial market, with a paid-up capital of 14.5 billion dirhams (\$3.95 billion). This figure is far lower than their market capitalization of nearly \$9.2 billion, which has steadily grown over the past five years due to a sharp increase in share prices caused by an economic upturn. Share dealing in the UAE is conducted by telephone through a handful of brokers, who often complain of manipulation.

The absence of a formal exchange, high rates of government ownership in listed institutions, and the restriction of dealing to nationals have all kept turnover in the UAE very low - not exceeding one million dirhams (\$272,000) per day. Share prices and movements are tracked by an unofficial stock index set up by the National Bank of Abu Dhabi in 1989, with a base of 1,000 points. The index dropped 10 points (0.5 percent) in the first half of 1994 to 2012.7, as compared to a rise of 4.3 percent in the same period last year. The Central Bank of the UAE started issuing 9, 12 and 18-month certificates of deposit (CDs) on April 1, 1994. A discount facility has also been introduced, whereby banks are able to sell CDs to the Central Bank at any time. The Central Bank currently issues CDs denominated in the local currency for one, two, three and six months; these, however, are not considered to be liquid instruments because of the absence of a repurchase facility. The introduction of both longer-term instruments and a repurchase facility will undoubtedly provide a boost to the capital markets of the UAE.

Qatar

Qatar has recently approved plans to set up a stock exchange in order to organize share dealing and attract investment. Such plans have been on the drawing board for several years, but they have been delayed by the small number of trading institutions as well as the large ownership of shares held by the government and members of the ruling family who do not trade. Indeed, among the challenges facing a stock market, one should stress both the small number of companies and the uneven distribution of share ownership, which occurs when a disproportionate number of shares are held by a few wealthy individuals and large corporations.

Shareholders at the Commercial Bank of Qatar took up 95.7 percent of a rights issue held between April 18 and May 2, 1994. A total of 336,496 shares were offered at a price of QR 200 (\$55) each, of which QR 100 is a premium. The remaining shares were sold through public subscription during June. The increase will raise the bank's paid-in capital by 50 percent, to QR 105 million (\$29 million).

Qatar has around 20 banks and companies trading their shares in an unofficial market, in addition to the giant Saudi Arabian Basic Industries Company, which trades its shares in all Gulf markets. In view of the small number of trading institutions and the absence of an exchange, turnover has remained the smallest in the Gulf. Moreover, there is no discipline in Qatar's market, nor is there any system to track the moves of shares and their prices. Such a state of affairs has given rise to manipulation, and has thus scared away small investors. At present, there are no short or long-term government bonds in Qatar, but the government is planning to launch a Treasury bill program later this year.

Conclusion

The markets in the Gulf region are still several years away from becoming truly emerging markets. Financial deepening requires a high degree of expertise among investors, borrowers, and supervisory agencies. In addition, credit-rating agencies are needed, both to carry out periodic analyses of local companies and to provide investors with a ready supply of reliable business information. More stringent reporting practices should also be implemented, together with an adequate legal system that fully recognizes the rights of creditors and protects those of savers and investors. Given that Gulf investors

have been active internationally and are therefore familiar with the intricacies of financial instruments, such measures will eventually open up greater scope for them to participate in the capital markets of the region.

The GCC countries must actively encourage the trading of shares across boundaries, thereby forging an effective regional capital market. A regional market would symbolize economic cooperation (as called for in the Unified Economic Agreement). It would also pool resources, help to avoid problems stemming from the small size of local markets, and provide financial institutions with greater placing power. In short, it would help mobilize resources at the regional level. Gulf governments should be able to sell their bonds and bills not only within their own domestic markets, but also throughout the region. This would increase the amount that can be borrowed and further contribute to the development of domestic capital markets.

To give added depth to Gulf stock markets, one could also promote the idea of opening these markets to international investors. As long as this measure is adopted with safeguards, such as limits on the amount that foreigners can jointly hold in any company (as is the case in Bahrain and Oman), or the channeling of foreign investment through mutual funds (e.g. Kuwait), it would boost demand for equity as well as encourage capital inflows.

The size of assets controlled by pension funds and unit trusts in the US, Japan, Canada, and Europe exceeds \$20 trillion. Only 0.2 percent (\$40 billion) were invested last year in the emerging stock markets of Asia, Latin America, Eastern Europe and Africa. If institutional investors decide to raise their holdings in emerging-market equities to 1 percent, this will bring \$200 billion to such markets around the world. Hence, Gulf countries should be poised to benefit from such capital inflows if and when they materialize.

Furthermore, Gulf banks have an important role to play in the development of the region's capital markets. They are expected to become the main intermediaries between capital-starved businesses and the risk-taking public. Both businesses and investors need specialized institutions to help them plan the start up of companies, as well as to assist them in raising the required capital. The instruments of such intermediation will be shares, bonds and all related products, such as futures, options and swap techniques.

Comments

Nabeel Al-Mannae

The paper by Dr. Henry Azzam is a thorough yet fairly concise exposition of the structure of capital markets in the GCC countries and of recent developments therein. By focusing on the constraints that hinder the development of capital markets in each of the GCC countries, the encouraging prospects for further development and integration of these markets become clearer. In view of positive current conditions, the paper also seems to suggest that the time is now ripe for government measures aimed at facilitating the evolution of these markets. The suggested measures include making local stock markets fully functioning, supporting them with the necessary legislative infrastructure, and ensuring the availability of sophisticated financial services. To this end, the concluding section of the paper proposes further deregulation in order to attract non-GCC capital; improved accounting and disclosure standards; increased depth and breadth of capital markets; and regional integration of these markets.

It is imperative to point out a few remarks that would help improve the understanding of the subject. To begin with, the relatively small bond market with almost non-existent private bonds in the GCC countries may be attributed to several factors. Since bonds are debt instruments used mainly by large enterprises to raise capital for their expansion projects, bonds are rarely issued because most large enterprises in the GCC countries are government-owned and rely on public expenditure outlays for their expansion projects. Meanwhile, smaller private enterprises often resort to either self-financing or borrowing from the banking sector for their capital investment plans.

Moreover, in order to promote corporate culture, the privatization drive should be intensified so as to stimulate the private sector and increase its role in the GCC economies. Also, the direct role of the government in the management decisions and policies of public shareholding companies should be curbed or even eliminated, because in many instances it breeds inefficiencies and thus affects public confidence in such companies. This in turn discourages the public from investing their savings in local stock markets.

In addition to transforming public enterprises into private corporations, close-

ly-held private companies and closed corporations should be encouraged to turn themselves into true public shareholding companies, which entails reducing block ownership of stocks as well as encouraging wider share ownership. For example, there is not a single construction company listed in Kuwait's securities market, whereas the construction sector - a major non-oil sector - accounts for five percent of Kuwait's GDP on average.

Furthermore, most stock markets in the GCC countries have witnessed at times violent fluctuations in stock prices. The excess liquidity in the economy coupled with limited investment opportunities encouraged speculation and made stock prices overshoot to unsustainable levels. This was naturally followed by a sharp downward price correction to more realistic levels. Small investors suffer the most in these cases; as a result, they seldom reenter the stock market, thereby discouraging other such investors from entering it.

The above points clearly indicate the wide scope available for Gulf capital markets to gain more depth and breadth, especially if we keep in mind that non-GCC nationals are not allowed to own shares listed on GCC stock markets (save for a few recent exceptions in some GCC countries). Expatriates represent a large portion of the local labor force, reaching up to 90 percent in some GCC countries. They either invest in local money markets or channel their savings abroad.

Dr. Azzam's paper, which is more descriptive than analytic, did not include any debatable theories or propositions. It therefore gives rise to little controversy. It appropriately concluded that capital markets cannot be created or superimposed on a country, as they evolve from actual need. Since this need is currently evident, GCC governments should face up to the challenge of facilitating the evolution of their capital markets in the smoothest possible way.

The Istanbul Stock Exchange and the Corporate Sector: Reflections on Turkey's Financial Liberalization Process

Güven Sak

Introduction

The objective of this paper is to assess the development of the Istanbul Stock Exchange (ISEX) in regard to its contribution to corporate sector financing, given that the stock exchange or stock market is not an indigenous institution in Turkey, but was established after 1980 in tandem with public policy measures aimed at financial liberalization.

As with most stock markets, two objectives lay at the root of the establishment of a stock exchange in Turkey (Lopes 1983). One goal was to devise a new mechanism for corporate finance in order to improve the process of fund allocation; the second goal was to improve information flows, both in the economy and in financial markets as a whole, so as to lower the costs associated with the flow of funds. This paper will analyze Turkey's performance regarding the first objective, and will attempt to ascertain whether an alternative instrument for corporate sector financing could have been developed. The performance in information aggregation and transmission related to the microeconomic efficiency of the exchange itself will not be discussed.¹

The relationship between primary and secondary markets is noted in the literature on financial markets [e.g. Van Horne (1978) and Garbade (1982)]. The development of a secondary market is viewed as a positive factor for the development of a primary market. However, the Turkish experience with

¹ Four studies exist on the micro-level efficiency of ISEX. Altun (1992) reports results of both serial correlation analysis and non-parametric run tests. His results are inconclusive regarding the weak-form efficiency of ISEX. The above work includes a survey of three other studies using the same techniques which reject the weak-form efficiency hypothesis for ISEX data. Sengul and Onkal (1992) report the results of a test for the semi-strong form of the efficient market hypothesis by using monetary and fiscal variables as the set of publicly available information. The results do not support the semi-strong form of the efficiency hypothesis. Aydogan (1994) presents a short literature survey of studies on stock market anomalies using ISEX data. It is reported that the anomalies found in developed markets could also be traced at ISEX.

ISEX shows that there is no direct relationship between these two markets. As experience demonstrates, the supply side of the stock market does not automatically adjust to the developments on the market's demand side. In other words, a flourishing secondary market in shares does not necessarily entail a growing primary market for shares.

The development process undergone by ISEX is useful in illustrating the character of Turkey's financial liberalization process. As noted above, when considered in Hayekian terms, the 1986 reorganization of ISEX was conducted through "human design," as opposed to "human interaction." In a country which lacks the institutional framework for market-based or market-determined changes, the financial liberalization process becomes a government-designed or government-induced process of financial change. Hence, there is room for public policy in the case of financial liberalization processes in developing market economies (Sak 1994).

This definition raises issues such as policy sequencing and possible policy errors in the organization of the financial liberalization process, an example of which could be the importance attached to a stock exchange in countries like Turkey. The short history of ISEX could help us to consider the policy-making framework surrounding the process of financial liberalization.

The instruments of public policy and their use become an important issue in policy-making discussions. If incentives on the demand side of the market far exceed the incentives on the market's supply side, then the market will inflate and speculative activity will prevail, with no positive contribution to corporate sector financing. In other words, when incentives overshadow the need for new financial instruments or financial innovations, then the latter will not take root in the financial system, and financial deepening will not occur. Market development through "bribes" provided by the government will continue as long as the mechanism for "bribes" exists. In such a scenario, the discontinuation of government incentives undermines the "new" instrument or mechanism supported by them.

This paper will first present a short chronology of policies geared towards the development of a securities market in Turkey. Subsequently, the development process of ISEX will be analyzed, and the contribution of ISEX to corporate sector financing will be discussed. The paper will then conclude the discussion with policy lessons for the future.

Turkey's experience with financial liberalization and the development of securities markets

The measures adopted during Turkey's experience with financial liberalization are discussed in Cosan and Ersel (1987), Ersel and Sak (1987), Saracoglu (1987), Akyüz (1989), and Sak (1994).

Financial liberalization and financial innovation processes could be viewed as manifestations of change in the character of international fund flows in the 1980s. As noted by the World Bank (1989) and the IMF (1993), international fund flows became market-based in the 1980s, in contrast to the allocation of funds through government channels prior to that decade. In this sense, Turkey's financial liberalization process is domestically-oriented, attempting to secure the foreign savings required by the Turkish economy to reproduce itself. The financial liberalization process in Turkey has the objective of creating secure channels for the flow of foreign savings into the domestic economy.

Turkey's financial liberalization process started in 1980 with the abolition of interest rate controls. Subsequently, the Capital Market Law (CML) was enacted in 1981, and the Capital Market Board (CMB) was established in 1982. Comprehensive studies geared towards the development of securities markets - including a stock market - were conducted from 1982 onwards.

Unlike its counterparts in developed countries, CMB is authorized not only to ensure the security and integrity of securities markets, but also to establish and develop the market itself. This second role is juxtaposed with the nature of the financial liberalization process carried out in developing market economies.

CMB first defined the nature of the contracts that could be issued by corporations to collect funds, and then the mechanisms for the transfer of such instruments. Intermediary institutions and their operating and reporting procedures were also defined at the first stage of the development process - between 1982 and 1986 - together with the accounting standards and reporting requirements of corporations. This first period of preparation reached its climax with the reorganization and reopening of the Istanbul Stock Exchange in 1986.

Concerning the organization of intermediaries, two important choices that marked the beginning of the development process were the merit regulation system for securities issues, and the universal banking system. The first choice was directly related to those institutions missing from the market framework. These missing elements required the government to exercise control over the process of development. Given the process of financial change, the universal banking system, on the other hand, was meant to strengthen the position of banks created in the wake of financial liberalization policies. In fact, it was also a manifestation of elements missing from institutional requirements.

The period between 1986 and 1989 witnessed the preparation of the basic institutional structure. However, trading and issuing volumes remained low. The 1986-89 years could be viewed as a learning period: instruments as well as institutions were new, and market participants were still learning the rules of the new game. During this period, the objective of CMB was to increase the number of participants in the activities of securities markets.

Turkey's securities markets embarked on a phase of growth after 1989, when restrictions on foreign participation in those markets were lifted. This was especially true for the stock market. Indeed, only the rumors pointing to the arrival of foreign portfolio investors could have given a boost to this market. In 1992, financial innovations induced by new regulations were designed to sustain the process of development, such as tax incentives granted to long-term mutual funds willing to invest 25 percent of their portfolio in shares.

The volume of operation at the stock exchange has grown rapidly in the 1990s. In the following pages, an attempt will be made to analyze the quality of this development, as well as to ascertain whether the development in terms of operational size also represents a change in corporate finance.

The performance of the Turkish stock market

Table 1 shows the development of the Turkish stock market in the 1986-1993 period in part A, and compares ISEX with stock markets around the world in part B. In part A, the growth of activity at ISEX in the 1986-1993 period is identified. The turnover ratio increased from 1.2 in 1986 to 66.5 in 1992, and then to 46.8 in 1993. This could be taken as an indicator of the liquidity of the market. The volume of trading in 1986 was only US\$ 11.5 million, there-

after reaching US\$ 21.3 billion in 1993. In addition, the average daily trading volume jumped from zero in 1986 to US\$ 86.5 million.

Table 1. Main Indicators Regarding ISEX Stock Market

	No. of Corporation Listed	ISEX General Index	Volume of Trading	Average Daily Trading Vol.	P/E Ratio (%)	Market Capitalization	Turnover Velocity (%)
A. Domestic Market Indicators (Billion TL)							
1986	348	100	8.7	0	5.1	709	1.2
1987	414	673	105.4	0.4	15.9	3182	3.3
1988	556	373.9	149	0.6	5	2048	7.3
1989	730	2217.7	1735.9	6.8	15.7	15553	11.2
1990	916	3255.7	15313.1	62	23.9	55238	27.7
1991	1092	4369.2	35487.1	143.6	15.9	78907	45.1
1992	1238	4004.2	56403.1	224.7	11.4	84809	66.5
1993	1284	20682.9	255627.9	1039.1	25.8	546316	46.8

B. Comparison with Foreign Stock Markets (Million US\$)

	1988			1992			Per Capita
	Market Cap.	Trading Vol.	Listed Corp.	Market Cap.	Trading Vol.	Listed Corp.	GNP (1992; US\$)
USA(NYSE)	2366106	1356050	1781	3798238.1	1745466.4	1750	23362
JAPAN (TSE)	3789033	2234299.5	1683	2318928.6	476976.7	1768	29794
FRANCE (PARIS)	299892.6	69279.4	676	349608	124879.1	1008	22872
KOREA (KSE)	94238	79180	502	107448	116138.1	688	6664
GREECE (ASE)	4285	313	119	9489	8280.2	129	7661
PORTUGAL (LSE)	7172	1136	171	9213	3469	191	8504
BRAZIL (RIO)	30772.1	6882.9	630	45416.4	2819	590	2558
TURKEY(ISEX)	1141.1	83	556	9902.5	6585.7	1238	1932

Sources: CMB Monthly Bulletins; FIBV 1993 Statistical Annex; SPO International Economic Indicators, Nov. 1993.

Market capitalization, on the other hand, increased from US\$ 938.9 million in 1986 to US\$ 37.8 billion in 1993. However, the latter increase is also related to the steep rise in prices. As can be seen in Table 1, in eight years, the

general index of ISEX reached 20682.9 in 1993 from its base year in 1986.

Moreover, the price/earnings ratio, denoting the relation between stock prices and the real-sector performance of corporations, increased to 25.8 in 1993. Incidentally, this ratio amounted to only 5.1 in 1986. Hence, the price paid for a unit of corporate profit received increased fivefold. As noted above, the increase in market capitalization is related to the rise in stock prices at ISEX over a period of eight years.

When compared with other stock exchanges, the small size and rapid growth of ISEX becomes apparent in panel B of Table 1. Note that the figures for per capita GNP are also reported in the table. However, in 1992 the figures prove that ISEX showed comparative success in terms of growth. Notice, for example, the comparable growth in ISEX and the stock exchanges of Lisbon and Athens. While in 1988 the market capitalization of ISEX amounted respectively to 16, 27 and 1.2 percent that of stock exchanges in Lisbon, Athens and Seoul, the relative size of ISEX in 1992, again in the same order, becomes 108, 105 and 9 percent.

When comparisons are made using the ratio of volume of trading to market capitalization - that is, the turnover or turnover velocity ratio - respective ratios for 1988 were 16, 7, 84 and 7 percent at the stock exchanges of Lisbon, Athens, Seoul, and Istanbul. By contrast, in 1992 the respective ratios indicating the liquidity of the above stock markets were 38, 17, 107 and 84 percent for Lisbon, Athens, Seoul and Istanbul.

The performance indicators as well as comparisons with other stock markets show development in terms of liquidity and trading volume at ISEX. In what follows, the paper will attempt to ascertain whether the performance of ISEX denotes a positive contribution to corporate funding and economic growth.

The contribution of stock exchanges to economic growth and corporate funding

Both financial and non-financial corporations

Stock markets are expected to contribute to economic growth by providing funds to both financial and non-financial corporations listed on the exchange. Otherwise, the increase in the volume of trading may only be regarded as the

size of the operation of a casino. One objective of secondary market trading is to create liquidity in order to encourage primary market participation by investors and, hence, fund flows to the corporate sector in the form of shares. Table 2 shows the correlation coefficients calculated for the 1986-1992 period. It uses real GNP, real new issues, real market capitalization and real volume of trading figures in correlation analysis. The GNP deflator is used in finding the real figures. As there are too few points for correlation analysis, the results should be analyzed with due care.

Table 2. Correlation Coefficients Between ISEX Indicator and the GNP (1986/1992)

	Market Capitalization	Trading Volume	New Issues	GNP
Market Capitalization	-	-	-	-
Trading Volume	0.8402	-	-	-
New Issues	0.95707	0.75319	-	-
GNP	0.65391	0.82948	0.58222	-

Source: Author's own calculations based on CMB data.

The GNP is most highly correlated with the volume of trading. Notice that the degree of correlation between GNP/market capitalization and GNP/new issues is lower. This shows, first of all, that the volume of activity at ISEX is sensitive to the volume of activity in the whole of Turkey's economy. As the size of the stock exchange is too small to influence the rate of growth of the economy, it could be inferred that the rate of growth of the economy has an influence on the volume of activity at the stock exchange.

The volume of trading, on the other hand, is most highly correlated with market capitalization. Market capitalization has two components. First, it reflects price movements and, secondly, it shows the rate of growth of the nominal capital of corporations. The latter component is also captured by the new issues figures included in the analysis. It may be inferred that the increase in trading volume has its first impact upon the level of prices, as the correlation coefficient between the volume of trading and the volume of new issues is lower.

Market capitalization is most highly correlated with new issues, which is quite understandable, since it is one of the components of the growth in market capitalization. The market value of corporations grow with new capital injections or investments. Furthermore, when the price level rises in response to an increase in market liquidity, it becomes cheaper to collect funds through share issues.

A qualitative remark about the nature of new issues must be made at this stage. New issues are composed of initial public offerings (IPOs) as well as normal capital increases of corporations. IPOs are basically in the form of public offerings of existing shares by large shareholders of listed corporations. There are also IPOs in the form of capital increases - that is, new shares issued and offered to the public.

Realizing that prices are high, large shareholders collect funds through IPOs. However, there are no data on whether funds collected through IPOs are allocated to new investments. In the case of normal capital increases, buyers are for the most part existing shareholders using their preemptive rights, which allow them to buy newly-issued shares with priority.

Another interesting issue relates to the buy-back arrangements used by the same large shareholders in order to collect their shares. In this scenario, the whole issue of IPOs may be viewed as part of fraudulent activities at ISEX.²

Non-financial corporations

The non-financial corporate sector should be regarded as the ultimate target of the program for creating alternative sources of funding. In what follows, the focus will be on non-financial corporate sector funding through share issues.

Table 3 reports selected ratios denoting the relation between economic growth and the performance of ISEX. In all the ratios used, one's attention should be

² There are a few cases inspected at the CMB regarding fraudulent buy-back arrangements. In general, the largest shareholder files an application with the CMB to offer 15 percent of company's shares to the public at a specified price. However, during the period of the sale or after it, s/he continues to sell her/his shares in excess of the publicly announced 15 percent limit. This lowers the price of those shares at ISEX below the issue price. Then s/he begins to collect publicly offered shares at prices below the issue price.

directed not to absolute values, but rather to opposing trends in secondary and primary market ratios.

The size of ISEX within the Turkish economy grew rapidly during the period under analysis. For instance, the ratio of trading volume to GNP grew from 0.02 percent in 1986 to 19.33 percent in 1993. At the same time, the market value of listed corporations in relation to GNP grew from 1.8 percent in 1986 to 41.3 percent in 1993. Referring back to Table 1, notice that the price level at ISEX inflated during the period under analysis. Once it has been established that there was significant growth in the operational size of ISEX, the latter is then viewed as an entity in itself. The objective here is to analyze the flow of funds to the corporate sector as a result of the operation of ISEX.

Table 3. Performance Indicators for ISEX and Its Contribution to Non-financial Private Sector Financing (%)

Years	Ratio of Trading Vol. to GNP	Ratio of Market Cap. to GNP	Ratio of New Issues Volume to Trading Vol.	Ratio of New Issues Volume to Market Cap.	Ratio of IPO Vol. to New Issues Volume	Ratio of New Issues Volume to Private Fixed Cap. Invest.
1987	0.2	5.4	177.6	5.9	0.0	2.2
1988	0.2	2.0	243.8	17.7	0.0	2.9
1989	1.0	9.1	56.0	6.3	0.0	4.7
1990	5.3	19.2	23.4	6.5	81.9	9.9
1991	7.9	17.4	10.1	5.6	17.6	7.8
1992	7.3	11.0	7.8	5.2	9.8	4.7
1993	19.3	41.3	2.0	1.0	22.4	3.1

Source: Author's own calculations.

The third column in Table 3 reports the ratio of new issues to trading volume. Contrary to the new-issues figures used in the previous correlation analysis, only new issues by non-financial corporations are reported at this point, since the goal is to underline the importance of direct corporate finance.

The ratio of new issues to trading volume shows whether an increase in the liquidity of the market contributes to the volume of funds collected by non-financial corporations through share issues. This is one way of showing the

relationship between primary and secondary markets. It is expected that a booming secondary market will encourage investment in stocks in the primary market, as portfolio reallocations become possible as well as less costly (e.g. Ghandhi 1988).

Given that new issues at market prices and IPOs started only after 1989, pre-1989 figures could be misleading. Before 1989, new issues were mainly at nominal prices and designed so as to enable existing shareholders to use their preemptive rights. Also, the volume of trading was very low in the pre-1989 period. However, the ratio of new issues to trading volume declined systematically, whether one considers the whole period or only the 1989-1993 sub-period. Indeed, it declined from 55.96 percent in 1989 to 2.03 percent in 1993. The increase in the liquidity of the secondary market for shares did not seem to motivate corporations to collect new funds through share issues.

Another interesting matter is the decline in the ratio of IPOs to new issues from 1990 to 1993 as reported in the fifth column of Table 3. The analysis of these figures reveals that not even fraudulent buy-back arrangements should be taken as seriously as alleged. Hence, the increase in the liquidity of the market did not encourage either new issues or IPOs as theoretically expected.

In the fourth column of Table 3, the ratio of new issues to market capitalization denotes the contribution of the stock exchange to the increase in the capital of listed corporations, that is, the rate of funds raised through share issues. Notice that the ratio looks stable - around 6 percent - in the 1989-1992 period, but it then declines to 1 percent in 1993. Taking into account the increase in market liquidity, it can be inferred that funds raised through share issues in the 1989-1992 period grew at a six percent rate irrespective of the rise in the liquidity of the stock market. Subsequently, in 1993 this ratio dropped to 1 percent.

Again in Table 3, the ratio of new issues to private fixed-capital investments is reported. Shares are regarded as long-term instruments in the literature. In light of this characterization, funding through the stock market could then be viewed as suitable for long-term investments. The ratio reached its peak - 9.9 percent - in 1990, and then declined to 3.1 percent in 1993. This ratio also shows a systematically-declining trend in the post-1989 period.

The above analysis does not quite substantiate the assumption that there is a relation between the growth rate of the economy and that of the stock market.

Although Turkey's secondary market for shares seems to have flourished and increased in terms of size, no visible success has been achieved in providing funds to the corporate sector.

Financing flows for non-financial corporations

Another way of reaching the above result, which points to limited success in the development of the Turkish primary market for shares, would be to analyze the distribution of net financing flows to the non-financial corporate sector.

In this regard, Table 4 reports the distribution of non-financial corporate sector financing flows in terms of sources of funds. The period under analysis goes from 1987 to 1993. One interesting point in connection with Table 4 is the parallel movement of the ISEX performance indicators reported in Table 3 and the percentage share of funds collected through share issues. Notice that the ratio of funds collected through shares to total fund flows reached its peak - 11.6 percent - in 1990, but it then declined to 3.4 percent in 1993. The decline is systematic, as in the case of ISEX performance indicators discussed above.

The second point regarding Table 4 is the continuous dominance of bank financing. Despite the reorganization of the stock market after 1986, the dependence of the non-financial corporate sector on bank financing persists. Notice that this was also the case after 1989, when the Turkish stock market is regarded as having taken off. This contradicts the expectations of Lopes (1983) in designing the guidelines for Turkey's financial liberalization process.

The figures for corporate sector financing in the 1987-1993 period support the finding that the post-1989 growth in stock market trading figures did not have a comparable influence on corporate funding. A scenario of flourishing secondary markets and shrinking primary markets highlights problems regarding financial deepening, in which case the extent of incentives provided must be scrutinized more carefully.

**Table 4. Non-financial Corporate Sector Financing Flows:
Percentage Distribution**

	1987	1988	1989	1990	1991	1992	1993
1. Bank Loans (1)	89.8	88.0	83.2	84.0	81.0	89.2	87.3
Commercial Banks	84.0	76.4	76.4	79.2	70.5	84.6	83.4
Development Banks	5.8	11.6	6.8	4.8	10.5	4.6	3.9
2. Securities	10.2	12.0	12.6	14.3	12.7	6.4	4.6
Shares	3.4	5.2	6.0	11.6	9.6	4.6	3.4
Other (2)	6.8	6.8	6.6	2.7	3.1	1.8	1.2
3. Other	-	-	4.2	1.7	6.3	4.4	8.1
Islamic Banks (3)	-	-	4.2	1.7	2.8	3.5	5.3
Leasing Co.	-	-	-	-	3.5	0.9	2.8
4. Total							
(Billion TL)	5502.7	7003.3	16131.3	30813.5	45320.8	95857.9	150753.2
5. WPI	100.0	170.5	279.5	425.7	805.1	1299.4	2082.1

Notes:

(1) Calculations based upon November figures in 1993. See Sak-Yeldan (1992) for a discussion of the composition of bank's loan portfolio.

(2) Corporate bond and commercial paper issues are taken into account.

(3) Named as special finance houses in Turkish legislation.

Source: Central Bank Quarterly Bulletins.

Conclusion

The Turkish experience in the 1990s shows that, in the case of flourishing secondary markets and shallow primary markets, speculative activity grows over limited shares outstanding when incentives are provided to the demand side of the market. The supply side of the market does not seem to be responding automatically to the growth in secondary markets. As a result, no automatic adjustment takes place in the market. Indeed, a growing demand does not create a growing supply by itself.

The adjustment problem on the supply side of the market could be analyzed in light of the objectives of the program for financial market development. As noted in the beginning of the paper, two objectives were considered in design-

ing the program for stock market development in Turkey. One was to devise a new mechanism for corporate finance, and the second was to improve information flows in the economy as a whole. The volume of funds allocated through the stock market is not viewed as important in our analysis. The point to be made here is that adjustment problems on the supply side of a stock market could have distortionary effects on the latter's primary function - namely, to improve the process of production and aggregation of information in the economy. This conclusion has important policy repercussions; it thus merits further analysis in the context of Turkey.

At this stage, the paper will not attempt a systematic analysis of the reasons behind this phenomenon. However, the absence of automatic adjustment itself could lead to policy conclusions. Once it has been ascertained that automatic adjustment does not take place, two types of dynamics could be considered regarding the adjustment problem on the supply side of the stock market.

One type of dynamics is related to the ownership structure of corporations as well as questions of secrecy and fear of losing corporate control, among other factors; these are also discussed in Ramos (1986), and Castaneda (1988). The second type, by contrast, is associated with the availability of a sufficient number of cheaper sources of funds, thereby strengthening the first set of mostly subjective factors. Foreign short-term fund flows into Turkey in the 1990s could be adduced as a reason impinging on supply-side adjustment.

In countries like Turkey, where public policy has a strong impact on the process of financial liberalization, the design of the policy framework is important. Accordingly, the absence of automatic adjustment is of primary importance in policy analysis. Notice, in this regard, that there is still no coherent framework for policy analysis or policy design in the Economics literature, as noted in Stiglitz (1994).

Nevertheless, three issues should be stressed in connection with the experience of Turkey. First and foremost, the decision to establish a stock exchange in the beginning of the process of financial liberalization might be viewed as ideological rather than economic, if not outright incorrect. A stock exchange is a complex collection of institutions pricing heterogeneous claims. Therefore, a market for government securities - where the claims to be priced are homogeneous - could be a better starting point.

The organization of a stock market requires the establishment of accounting and disclosure standards, unwritten ethical standards among intermediaries, as well as rule-enforcement powers. In addition, all transactions must be supervised in light of existing rules, clearing and settlement mechanisms must be implemented, depository services provided, and so forth. All the above factors require that contract enforcement be guaranteed in a fair trading environment. Indeed, in an environment where trading takes place on heterogeneous claims by heterogeneous investors, a more complex collection of institutions is required.

A second issue to be tackled regards economic incentives, which should be carefully analyzed by the government before further incentives are provided. In fact, if incentives are excessive, economic agents could enter the related area only to benefit from them, in which case no long-term benefits concerning behavioral change would be achieved by providing extra incentives. Incentives should be designed to add momentum to the process. If they become the only motive for participation in the process, then their discontinuation would spell the demise of the market thus developed.

Finally, incentives should be balanced between the demand and supply sides of the market; otherwise, new problems could emerge. As in the case of Turkey, when demand-side incentives exceed those on the supply side, speculative activity prevails in the market.

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Comments

Nemat Shafik

Güven Sak's paper is a very interesting account of developments in the Istanbul Stock Exchange, which is, along with the Amman Stock Exchange, among the most active in the region. The Turkish experience raises many issues for other countries on the path of financial liberalization. In particular, Sak's paper highlights the phenomenon of flourishing secondary markets alongside stagnant or shrinking primary markets. The author concludes that the rapid growth in stock market activity has not been associated with increased reliance by the corporate sector on the stock market for investment. There are two sets of issues that need to be discussed in connection with the puzzle raised by the author, which is a fairly unique feature among emerging stock markets.

First and foremost, to what extent has the rapid growth in the Istanbul stock market been fueled by "artificial" factors such as regulations and the institutional characteristics of the market rather than by market forces? By 1992, for example, market capitalization and trading volumes in Turkey were equivalent to or greater than those in Greece or Portugal, even though Turkey's per capita income was only about one-quarter the per capita income of those countries. Moreover, the number of corporations listed on the Istanbul Stock Exchange was 1238, which is closer to the 1750 corporations listed in the United States or the 1768 corporations listed in Japan than to the much smaller number listed in Greece (129) or in Portugal (191). How can such anomalies be explained? Could the large number of listings reflect tax and other incentives aimed at encouraging corporations to list on the stock exchange? Could the large growth in trading volume perhaps reflect collusive behavior on the part of large market participants? It would be worthwhile to explore such non-market explanations for the patterns identified in Sak's paper, particularly since their significance is likely to reduce the information content of stock market developments.

Furthermore, should this be cause for concern or is the growth in trading a reflection of the stock market serving other functions that have nothing to do with investment directly? The author makes some interesting points about corporate finance decisions, such as the importance of secrecy and control in

family business, the availability of alternative financing, and the impact of universal banking. These determinants of corporate finance and investment decisions at the firm level need to be better understood. Decisions to raise capital through the stock market are made within a specific context, and it is important to comprehend the incentive regime in which firms operate in order to understand why growing demand for equities does not seem to stimulate a greater supply. One should be concerned about the slow growth of the primary market only if stock market financing of investment is viewed as superior or incremental or as embodying externalities relative to other forms of investment financing. There may also be indirect effects that increase domestic capital formation at the margin as Turkish investors are increasingly able to diversify risk domestically.

As a final comment, in addition to the two stock market functions mentioned in Sak's paper, namely facilitating corporate finance and improving information flows, a third role needs to be discussed - that of providing a mechanism that enables risk diversification. Perhaps the real explanation for the boom in the Turkish stock market is foreign portfolio investment seeking to diversify risk across countries, which has little to do with the need for new equity finance by Turkish corporations. There are many reasons why international investors wished to hold Turkish assets in the early 1990s, such as the country's improved fiscal performance, its capital market reforms, and the opportunities for risk diversification as a result of the lack of correlation between price changes in the markets of industrialized countries and those in Turkey. The difficult question will then revolve around the strategy through which to draw upon foreign demand for Turkish equities driven by risk diversification motives so as to foster investment and growth in Turkey. It would be interesting to understand why Turkey's structure of domestic incentives does not encourage local firms to tap this external source of capital.

10

The Renaissance of Beirut's Financial Markets

Nasser Saidi

Introduction

This paper discusses the background and prospects for the reemergence of Beirut as a regional financial market for the Near and Middle East. Starting in the 1950s, and especially during the 1960s and 1970s, Beirut had emerged as the prominent - if not the exclusive - financial and capital market in the Middle East. A combination of factors had contributed to this success,¹ such as the openness of the Lebanese economy to trade in goods and services; the absence of controls on capital flows; the unconditionally convertible currency; a liberal, laissez-faire approach to economic policy and its implementation; a limited role for government in economic affairs; and a favorable regulatory environment as exemplified, inter alia, by the tradition and law relating to banking secrecy.² In addition, the development of the banking and financial sector in Lebanon was favored by adverse political and regulatory developments in neighboring countries, such as the series of wars, coups d'état, and pro-socialist regulatory regimes and nationalizations that swept across Egypt, Iraq, Palestine, Syria and other countries in the region between 1950 and 1965. These instances of instability and adverse political developments resulted in capital flight into Lebanon as well as an inflow of human capital represented by entrepreneurs, industrialists, high-skilled labor and profes-

¹ For a discussion and background on economic and financial conditions and developments during the period of the French mandate, 1920-1943, the reader is directed to the excellent books by Sa'id Himadeh, *The Monetary and Banking System of Syria*, American University of Beirut, Beirut, 1935 and *Economic Organization of Syria*, American University of Beirut, Beirut, 1936. For the post-mandate period, see A. Badre, "Economic Development of Lebanon", in Cooper and Alexander, eds., *Economic Development and Population Growth in the Middle East*, American Elsevier, 1972.

² The law relating to Banking Secrecy was enacted in 1956. See Ch. Fabia, "L'Institution du Secret Bancaire au Liban", in *Revue Trimestrielle de Droit Commercial*, Beyrouth, Janvier-Mars, 1957. Also important in assisting the rapid development of the banking sector during this period was the law relating to "joint" accounts, passed in 1961, which among other characteristics, allows the surviving account holders beneficial ownership in the event of death of an account holder.

sionals. The results were impressive. During the 1950-1974 period, it is estimated that the Lebanese economy grew at an average annual real rate of about 5.6 percent, while the population growth rate was about 2.9 percent. Likewise, inflation remained at low levels (ranging from 2 to 4 percent), in line with inflation in the major industrial countries. The Lebanese Pound (LL) exchange rate varied between periods of stability to slight appreciation against the major currencies. There was also rapid growth in the banking sector and increased financial deepening.³ However, rapid economic growth and prosperity were abruptly interrupted by the onset of civil war and violent internal conflicts starting in 1975. By contrast to the earlier period, it is estimated that the average growth rate of real GDP turned negative at -4 percent, while inflation accelerated to an average 28 percent per year.⁴ Indeed, the sixteen years of war and destructive conflicts between 1975 and 1990 reversed the impressive gains in per capita income that had been achieved in the 1950-1974 period.

This paper will discuss macroeconomic developments following the Israeli invasion in the summer of 1982, focusing on recent attempts at economic stabilization since the end of hostilities in 1990. It should be clear that security as well as political and economic stability are pre-requisites for well-functioning financial markets. The paper will then turn to a brief review of investment requirements in the public and private sectors for economic reconstruction in Lebanon. The basic message is that the size of capital expenditures required over the foreseeable future exceeds domestic savings, thus calling for large and sustained foreign capital inflows in order to finance domestic investment. Subsequently, the prospective role of Lebanon's financial markets at both domestic and regional levels will be outlined. Apart from their obvious role in financing domestic reconstruction, Lebanon's financial markets could develop a new capacity as a regional capital market, channeling foreign

³ For a discussion of monetary and banking conditions during this period, see N. Saidi, "Flexible Exchange Rates and Competitive Banking: An Interpretation of Lebanon's Monetary Experience, 1950-1977," *Banque du Liban. Bulletin Trimestriel*, No. 9, 1981 and S. Makdisi, *Financial Policy and Economic Growth: the Lebanese Experience*, Columbia University Press, New York [1979].

⁴ I discuss the inflationary experience of Lebanon and the underlying factors in N. Saidi, "Deficits, Inflation and Depreciation: Lebanon's Experience, 1964-1988", in N. Shehadi & B. Harney, *Politics and the Economy in Lebanon*, School of Oriental and African Studies and Centre for Lebanese Studies, Oxford, 1989.

resources into the region's emerging and liberalizing economies. The paper will also offer some suggestions regarding the organizational structure of Lebanon's financial markets, their potential size, and instruments. A number of reforms will be mentioned alongside legal and regulatory innovations required to provide a suitable foundation to these markets. Finally, the paper will speculate on the future regional role of Beirut, followed by concluding comments.

Macroeconomic developments (1985-1990) and stabilization policy (1991-1994)

In reviewing macroeconomic developments in Lebanon over the past ten years, it is useful to distinguish between two sub-periods: 1985-1990 and 1991-1994. The latter period has been characterized by attempts at economic stabilization continuing through 1994. By contrast, the former period, ranging from 1985 to 1990, followed the Israeli invasion of 1982. The invasion resulted in more than 20,000 dead, more than 75,000 wounded and maimed, as well as extensive destruction of physical capital and basic infrastructure; it also led to a major dislocation of markets, including the *de facto* partition of Lebanon.⁵ Furthermore, the invasion generated domestic political instability that led to a new wave of violent internal conflicts, thus substantially weakening the central government. From a macroeconomic perspective, the 1985-1990 period was characterized by extensive destruction of physical infrastructure and capital stocks, the outmigration of high-skilled labor and professionals, a decline in real income and labor productivity, severe disruptions in the operation of the legal system and the judiciary, an accommodating monetary policy, and rising government budget deficits resulting from a persistence in government spending while revenues plummeted. In turn, growing fiscal deficits resulted in a large accumulation of domestic public debt. The macroeconomic consequences of the above were

⁵ For a more extensive discussion of the economic consequences of the war and the policy reforms required for reconstruction and modernization, see N. Saidi, "Economic Consequences of the War in Lebanon, Centre for Lebanese Studies", Papers on Lebanon No. 3, Oxford University, 1986 and, "The Economic Reconstruction of Lebanon: War, Peace and Modernization" in D. Collings, ed., *Peace for Lebanon? From War to Reconstruction*, published in association with the Canadian Institute for International Peace and Security, Lynne Rienner Publishers, Boulder & London, 1994, and references therein. B. Lababki and K. Abou Rjeily's *Bilan des Guerres du Liban 1975-1990*, Editions L'Harmattan, 1993, contains estimates of the loss of human life, migration, and other damage.

highly visible and hardly surprising:⁶ high price and wage inflation rates peaking at close to hyperinflationary rates in 1986 and 1987, a rapid depreciation of the LL exchange rate against all major currencies, a highly-dollarized economy with a rising proportion of currency in circulation, deposits, credits and transactions becoming foreign-currency denominated, a banking sector crisis resulting in a number of bank failures, interruptions in the development and operation of financial markets, and high nominal interest rates. (However, as a result of continuous attempts by Lebanese authorities to control nominal rates, persistently high inflation rates and sudden inflation upsurges led to negative real interest rates.)

By the late 1980s it had become increasingly clear that economic stabilization required political reform and the restoration of security. With the enactment of the Taif Accords in 1989, success was achieved in ending Lebanon's internal conflict. Designed to provide the foundations for a long-term political settlement affirming Lebanon's Arab identity, the Taif Accords were based on a redistribution of power among the various communities and religious sects; a reform of the presidential system; and a definition of the Syrian presence in Lebanon. By October 1990 internal hostilities had come to a halt with the end of the Aounist attempt to take power. This led to the reorganization of the Lebanese army and the disbanding of the militias, whose members were partially absorbed into the army. With improved security, the central government was able to increase its control over the territory, extend the rule of law, and conduct parliamentary elections in 1992. Following the appointment of the Hariri government in October 1992, the elements of a heterodox approach to economic stabilization took shape.⁷ Such an approach was a mixture of classical ingredients. On the fiscal policy side, the plan encompassed an attempt to reduce budget deficits by curbing government expenditures in real terms as well as increasing tax and non-tax revenues; investment in tax administration and collection; and tax reform, including a major reduction in tax rates.⁸ On the other hand, monetary and exchange rate policies were predicated on the adoption of a nominal exchange rate "anchor" policy leading to a stable daily

⁶ See N. Saidi, "Deficits, Inflation and Depreciation..", *op. cit.*, for a detailed review of this period.

⁷ For further discussion of the elements of stabilization, see N. Saidi, "Capital Markets, Economic Stabilization and the Reconstruction of Lebanon: 1993 and Beyond", unpublished, Beirut, October 1993.

⁸ Personal and corporate tax rates were reduced to about 10 percent.

rate with a moderate "crawling peg" appreciation against the US dollar, and a non-accommodating monetary policy which, coupled with the partial sterilization of capital inflows, has implied high nominal and real interest rates. The government also implemented an incomes policy aimed at restraining wage claims, including limitations on the extent of cost of living adjustments across the public and private sectors. Such limitations on cost of living increases for public sector salaries and wages was critical in restraining the growth of government expenditures, since labor costs account for about 70 percent of non-interest government spending.

Starting in 1990, renewed confidence in the future of Lebanon brought about by political stability and the restoration of security, along with expectations of economic reconstruction and improved prospects for peace in the region, has led to a surge in capital inflows. The combination of positive security and political developments alongside the implementation of the elements of an economic stabilization policy, as noted above, have yielded tangible economic results. As shown in Table 1, Lebanon's net foreign assets have increased, inflation has dropped dramatically to below double-digit levels, and overall economic growth has surged.

Economic reconstruction

Rebuilding the Lebanese economy from the damage inflicted over the past sixteen years of civil war necessarily implies capital accumulation - physical as well as human capital. The accumulation of physical capital is needed to replace capital destroyed, to make up for low investment ratios during the war years, and to provide capital for a young and rapidly-growing population. In particular, increasing per capita real income and regaining the pre-war growth path of real GDP will require a substantial rise in the amount of capital per head. This process of "capital deepening" will be critical in raising labor productivity during the process of reconstruction. Two related issues are the order of priorities and the share of total capital expenditures to be undertaken by the public and private sectors.

The objectives and priorities of Lebanon's economic reconstruction at this stage are clear. Attempts must be made to rebuild the economy's infrastructure in order to provide basic services relating to power, communications,

transport, telecommunications, water and sewage;⁹ the country's housing stock must be rebuilt; and the necessary incentives and conditions to encourage the return of Lebanon's high-skilled migrant population must be provided. Investment in infrastructure should take precedence over all other efforts because it is complementary to private sector capital expenditures and raises the marginal efficiency of such investment. Public sector infrastructure is directly productive and raises the marginal productivity of private sector capital. The Council for Development and Reconstruction (CDR) has recently developed a multi-sector investment plan covering Lebanon's various regions and phased through the year 2002.¹⁰

Table 1: Lebanon: monetary and nominal variables, 1992-1994

Variable	Dec. or Year 1992	Dec. or Year 1993	June 1994
Nominal GDP (\$, %)	26.5%	14.2%	10.6%
Balance of Payments	\$54	\$1,170	\$600
Inflation Local LL (%)	130%	9%	8.5%
LL Interest Rates (%)	12.6%	16.5%	14.7%
LL/\$ Exchange Rate	1838	1711	1684
Net Foreign Assets	\$6,730	\$8,726	\$9,182
International Reserves	\$1.448	\$2,220	\$3,429

Sources: line (1): own estimate; lines (2), (4), (5), (6), (7): Banque du Liban; line (3): Consultation and Research Institute, Beirut. Variables are in \$ millions, unless otherwise indicated.

As shown in Table 2, the CDR plan calls for up to \$11.6 billion (at constant 1992 prices) in public investment to be spent over the next ten years distributed across major sectors. It also stipulates that up to 46 percent will be financed through domestic and foreign borrowing. What of the financing of the private sector? Table 3 shows the results of a simulation exercise based on a gradual return to the pre-war path of real income, and indicates the private and public sector investment requirements for two growth scenarios -

⁹ See the *World Development Report*, the World Bank, Washington, 1994, and references therein for a empirical evidence and a report on the important role of infrastructure expenditures in development and in raising the return on private sector investment.

¹⁰ See the *Council for Development and Reconstruction, Horizon 2000 for Reconstruction and Development*, Main Report, Beirut, 1994.

low growth (scenario I) and high growth (scenario II).¹¹ Note that the CDR investment plan falls into the high-growth scenario, requiring higher investment by the private sector. The latter amounts to between \$18 and \$21 billion (at constant 1992 prices), spread over the next ten years. Hence, total (public and private) investment spending exceeds \$32 (\$26) billion, well above the forecast flow of domestic savings of about \$10 (\$6) billion. The excess of domestic investment over domestic savings must be sought from external resources and must be generated by sustained and relatively large net capital inflows ranging from \$20 to \$22 billion (at constant 1992 prices) over the next ten years.

Table 2: CDR: Horizon 2000 Investment Plan

Broad Sector	Year 1-5	Years 6-10	Total Years 1-10
Physical Infrastructure	\$4,300	\$2,319	\$6,619
Social Infrastructure	\$1,819	\$1,426	\$3,245
Productive Sectors	\$591	\$747	\$1,338
Other Sectors	\$334	\$136	\$470
Total Program	\$7,043	\$4, 629	\$11,672

Source: CDR, 1994.

Table 3: Investment requirements and foreign finance: 1994-2003

	Scenario I	Scenario II
Total Investments (\$, Bn.)	\$26	\$32
Public Investments (\$, Bn.)	\$8	\$11
Private Investments (\$, Bn.)	\$18	\$21
Foreign Finance (\$, Bn.)	\$20	\$22
Domestic Savings (\$, Bn.)	\$6	\$10
Investment as % GDP	24%	26%

Source: Author's own simulations and calculations.

How plausible is it that Lebanon can absorb and attract such substantial capital inflows? The answer depends, to a large extent, on the relative real after-

¹¹ See N. Saidi, "The Economic Reconstruction of Lebanon: War, Peace and Modernization", op. cit. for details of the methodology used for the simulation.

tax rates of return to investment in Lebanon as compared to other countries, as well as on the perceived risk of investing in the country. On both counts, economic fundamentals seem encouraging. First, the low level (scarcity) of available capital implies, *ceteris paribus*, that the marginal productivity of capital and the expected real rates of return to investment are high, thus tending to attract capital. Secondly, the achievements noted above - increased security, political stability, low tax rates and economic stabilization - have led to a reduction in perceived political and economic risks, thus tending to increase capital inflows and the total return to investment in Lebanon. Thirdly, investment in Lebanon may generate substantially larger payoffs in the event of a peaceful settlement in the region. However, although the attractiveness of foreign (and domestic) investment in Lebanon is high, it is also necessary to create the appropriate channels and financial instruments for investment; indeed, the financial intermediation process is crucial.

The role of financial markets¹²

The potential role of financial markets in Lebanon has two dimensions. On the one hand, there is a domestic aspect linked to the standard investment-saving intermediation process and to the financing of reconstruction. On the other hand, there is an international aspect related to the "renaissance" of Beirut as a regional financial center. It is important to highlight certain points in this regard. First and foremost, the availability of financial markets will be critical to mobilize resources and channel domestic and foreign capital to productive investments. In addition, it will allow for the sharing of investment risk and will provide liquidity to the economy.¹³ Apart from retained earnings and other internal resources, the main source of corporate finance and credit in Lebanon is bank lending. Medium and long-term funding, project finance, and term lending are virtually absent. Indeed, most bank lending takes the form of callable overdraft facilities.

¹² For additional discussion of the role of capital markets, see N. Saidi, "The Role of Capital Markets in Lebanon's Reconstruction: Developing Debt and Equity Markets to Finance Reconstruction." *The Journal of Economic Research*, Vol. 2, Beirut, January 1993.

¹³ A good example of the ability of financial markets to provide liquidity is "Solidere", the real estate development company set up to rebuild the destroyed city center of Beirut. By creating marketable shares as a counterpart to immobilized, unproductive real estate in the downtown area, "Solidere" generates liquidity for the holders of rights. The shares can be sold, or used as collateral, thus freeing up liquidity that can be used in alternative projects.

Over time, a structural change in the sources of finance will come about as a result of the availability of financial market instruments such as commercial paper, bonds and equities, along with liquid markets with a sufficient number of participants to ensure competition and transparency, will lead to a structural change in the sources of finance. As the costs and risks of financial market intermediation fall, two effects will be felt - financial deepening, i.e., an increase in the volume of available finance relative to aggregate transactions and economic activity, and a substitution away from bank lending towards marketable securities.¹⁴

Furthermore, the banking sector, financial markets and related services are important sectors in the economy, contributing more than 40 percent of GDP. As such, developing such markets also leads to an expansion of real economic activity. Financial market instruments and securities provide alternative marketable investment opportunities to traditional investments in real estate and Treasury bills. Hence, they make it less likely that capital inflows will create a speculative boom, driving up the prices of real estate assets, or lead to potentially volatile short-term portfolio investments in Treasury bills.

Moreover, a market must be created to support future privatizations of public sector entities as well as to provide funding for a process of mergers and acquisitions in the corporate sector. It will also be needed to mobilize and channel capital resources back into the region, thus recovering Beirut's traditional pre-war role as a money market center and a conduit for funds to be deposited in Western Europe and the United States. Hence, what has been termed the "renaissance" of Lebanon's financial markets is underpinned by two sets of fundamental factors. First, the need to finance private and public sector investment spending during the reconstruction period and beyond; and secondly, the need to repatriate capital for investment in the Middle East region and beyond.

Potential size, structure and organization of Beirut's financial markets

The paper will now address three issues: the factors that could underlie a com-

¹⁴ As an example of this process of financial transformation see the description of the US experience by B.J. Friedman, "Postwar Changes in the American Financial Markets", in M. Feldstein (ed.), *The American Economy in Transition*, National Bureau of Economic Research, The University of Chicago Press, 1980.

parative advantage for Beirut to reemerge as regional financial center; the elements of what might constitute an appropriate market and institutional structure for Beirut's financial markets; and the potential size of such financial markets.

A number of contributing factors can make Lebanon develop a comparative advantage as a regional financial market.¹⁵ Among these, one may cite Beirut's strategic and central geographic location; its long tradition as an international banking center, with support services in the legal and accounting/auditing professions; banking secrecy; unrestricted currency convertibility; the absence of capital controls; and low levels of personal and corporate taxation. In particular, one should note the absence of discriminatory tax barriers to foreign investment.

Indeed, it is important to note that the cornerstones of Lebanon's liberal financial policy - banking secrecy, currency convertibility, and unhindered capital movements - have been tried and tested. Since 1949 Lebanon has followed a flexible exchange rate regime - incidentally, the longest historical experience of any country with a flexible exchange rate regime. Despite political turmoil in the Middle East, sixteen years of civil war in Lebanon, and the volatility of international currency and capital markets, Lebanon never imposed controls either on capital movements or on the convertibility of its currency. This fact underscores the credibility of both monetary and exchange rate policies and institutions, and amounts to a large investment in, and a fine reputation for policy consistency. Hence, unlike a large number of emerging countries, including the economies of Eastern Europe and the former Soviet Union, Lebanon has earned its reputation and credibility in implementing and sustaining policies and institutions.

Despite the aforementioned positive contributing factors, there are a number of important reforms and policy changes required in order to modernize and develop Lebanon's markets. Fundamentally, the legislative "infrastructure" relating to financial markets and the banking sector needs to be revised. The objective is to adopt modern trading systems and technology - including a

¹⁵ See the proceedings of the conference on "Financial Markets in the Middle East", organized by the UK Government and The Royal Institute of International Affairs, (London, April 1994), for a review and prospects for the financial markets in the region. See also, the paper by A. Abisourour, "The Emerging Arab Capital Markets: Status, Role and Development Prospects," in S. El-Naggar, ed., *Financial Policies and Capital Markets in Arab Countries*, International Monetary Fund, 1994.

computerized, paperless system - and to apply international regulatory and supervisory norms. Briefly, the following changes are necessary: the modernization of laws relating to the banking and financial sectors so as to incorporate international norms and standards, and specifically, to reflect the creation of new markets (e.g. forwards, futures, options, etc.) and international innovations in instruments and new products; the establishment of an independent capital markets regulatory authority for the licensing and supervision of markets and market participants; the introduction of laws to protect investors and to ensure the transparency of market operations; and the adoption of modern accounting and auditing norms and standards.

In order to address these concerns, Lebanese authorities will be proposing legislation aimed at enacting a comprehensive capital markets law. Broadly, three organizations will be created: the Beirut Stock Exchange (BSE), the Beirut Money Market (BMM), and a central depository and clearing organization, 'Midclear'. The BSE is expected to include a primary issue market as represented by a modernized Bourse de Beyrouth,¹⁶ and a Beirut Secondary Market for trading. The BSE will deal with all equity and equity-related instruments. The BMM, by contrast, is expected to trade in money-market instruments, government and corporate debt, derivatives and related instruments. A Beirut Capital Markets Board (BCMB), set up as an independent authority under the capital markets law, would have overall responsibility for these markets. In addition, an independent Beirut Capital Markets Commission - accountable to the BCMB - would act as the supervisory authority and industry "watchdog". Finally, the central depository and clearing house, 'Midclear', would operate under Group of Thirty recommendations, providing an efficient paperless system with delivery against payment.

What is the potential size of a new BSE? Clearly, there is no reliable scientific method to estimate the capitalization of an emerging or reemerging market. Table 4 shows the profiles and characteristics in 1992 and 1993 of a number of emerging stock markets in the "middle capitalization" range. Typical of the emerging markets sector, returns and risks are high compared to more mature stock markets.

¹⁶ Though a rudimentary stock market was established in June 1920, the law establishing the Beirut Bourse was enacted by Parliament in June 1954. For a history of the Beirut Bourse, see the fascinating book by R. Pringuey, *La Bourse de Beyrouth*, Beyrouth, 1959.

Table 4: Emerging Stock Markets Profiles for the Year 1993

Currency \$ in millions - end of period level

(1) Countries	(2) Number Of Listed Companies	(3) Market Capitalization	(4) Average Capitalization	(5) Trading Value	(6) Turnover Ratio	(7) Change In Local Index	(8) Total Return Index IFCG*	(9) Annualized Standard Deviation*	(10) Market Capitalization (1992)	(11) GDP (1992)	(12) Market CAP. / GDP (1992)
		(2) / (1)		(%)	(%)	(%)	(%)	(%)	(1992)	(9) / (10)	%
Colombia*	89	9,237	104	732	9.80	49.80	34.70	37.27	5,681	43,538	13.05
Greece*	143	12,319	86	2,713	24.40	42.60	21.90	48.53	9,489	77,684	12.21
Jordan*	101	4,891	48	1,377	33.20	22.00	24.20	19.81	3,365	4,882	68.93
Turkey*	152	37,496	247	23,242	80.90	416.00	234.30	71.01	9,931	109,609	9.06
Poland*	22	2,706	123	2,170	129.10	1095.30	739.60	104.82	2,706	83,249	3.25
Cyprus	39	981	25	30	2.80	-7.60	N-A	N-A	1,183	6,700	17.66
Egypt	674	3,800	6	75	2.30	24.70	N-A	N-A	2,592	44,431	5.83
Morocco	65	2,662	41	498	21.70	28.70	N-A	N-A	1,876	28,762	6.52
Oman	95	1,605	17	187	11.90	-3.60	N-A	N-A	1,545	11,489	13.45
Tunisia	19	955	50	46	5.20	25.90	N-A	N-A	817	15,526	5.26
Beirut** (1995)	15	4,200	280	1,050	25.00	?	?	?	N-A	7,750	54.19

Turnover Ratio: Total value of shares traded during the period divided by the average market capitalization for the period.
 Annualized Standard Deviation: Standard deviation of the monthly percent changes times the square root of twelve.

*Emerging markets included in IFC composite Index.

**Values included for Lebanon are hypothetical and include "Solidere".

Table 5: Money and Debt Markets: Projected Size, 1994-1997

	Domestic	Foreign	Total
Government Debt	\$5 Bn.	\$2 Bn.	\$7 Bn.
Corporate Debt	\$2 Bn.	\$1 Bn.	\$3 Bn.
Money Market	\$2 Bn.	\$0.0	\$2 Bn.
Grand Total:	\$9 Bn.	\$3 Bn.	\$12 Bn.

Source: author's own projections and calculations.

For purposes of "simulation", this paper has included some hypothetical projections for Lebanon in 1995. Until the Bourse de Beyrouth stopped active trading in the mid-1980s, more than 40 companies were listed and traded. In addition, a number of sectors were represented, such as insurance, banks, electric power, real estate, industrial companies, wholesalers and tourism-related businesses. The simulation assumes that up to 15 companies will be listed by 1995.¹⁷ The market has already developed with the listing of "Solidere" on the Beirut Secondary Market in June 1994. By the end of September, the share price had risen by more than 60 percent, and the market capitalization of the company was in excess of \$3 billion. The market could also include cement companies and other industries, the banking sector,¹⁸ utilities, tourism, as well as new projects. Including "Solidere", the potential capitalization of the stock market would be in excess of \$4 billion, with a ratio to projected GDP of about 54 percent. This would place the BSE in the mid-cap range of emerging stock markets. In addition to the stock market, the money and debt markets have substantial scope for expansion. Table 5 suggests some plausible estimates for the size of the debt and money markets over the next few years.

¹⁷ Note that some 10 of these companies were previously quoted on the Bourse de Beyrouth and are currently trading in a 'gray' market. The shares of Solidere are trading on the organized secondary market exchange.

¹⁸ Currently, bank share ownership is nominative and shareholdings have to be approved by the Central Bank. This prevents the development of a market in bank shares. The Central Bank has recently proposed legislation (October, 1994), currently under consideration by Parliament, which would allow banks to have up to 20 percent of their capital in bearer, negotiable shares. If passed, this would enable banks substantially to increase their capital funds and add depth and liquidity to the market.

Projections are based on current levels of government debt and assume that the corporate debt market will grow over the next few years to about half the size of the government debt market. Similarly, money-market instruments are also expected to grow to about \$2 billion. Overall, the equity, government and corporate debt, and money-market instruments could represent a total value of about \$16 to \$17 billion over the next few years. While these numbers appear large compared to the current size of the economy, they are plausible given the reconstruction scenario discussed above and the financing required for capital expenditures.

Concluding comments

Developing Lebanon's financial markets should be given high priority by economic policymakers. Indeed, efficient financial markets are critical in attracting the capital flows required to finance Lebanon's substantial reconstruction investment requirements, and also in marshaling the capital flows required to develop, reconstruct and assist in the transition of a number of economies in the Middle East. As the prospects for a peaceful settlement of regional conflicts improve, a number of countries will be major capital importers. These include Syria, Palestine, Iraq, Kuwait, Iran, Armenia, and the Central Asian republics of the former Soviet Union. Lebanon should develop its capital markets so as to act as a regional financial center, attracting funds on an international basis as well as acting as a conduit of medium- to long-term finance for the countries and companies of the region. As the political map of the Middle East is redrawn, its financial map will also be revised. We foresee the development of possibly three financial centers in the Middle East. One regional center will be based on the Bahrain-Dubai-Kuwait triangle. A second regional center will be an Israel-Jordan-Palestine center, developing as an outgrowth of increased integration among these economies. Finally, a third center with an international vocation will develop in Beirut.

Comments

Nemat Shafik

The world has changed dramatically since the days when Lebanon was the financial center of the Middle East. International capital markets have become globalized to a degree unimaginable before the technological revolutions in communications and information processing. The plethora of new financial instruments requires a growing sophistication among both buyers and sellers of financial services. The major oil-exporting countries now have direct links with international markets, no longer necessitating intermediaries. But with falling oil prices and rising domestic obligations, the oil exporters also no longer have such enormous capital surpluses which require recycling on international markets.

Dr. Nasser Saidi's paper reflects how Lebanon has changed its strategy in response to the new context in which reconstruction and revitalization of its economy must occur. Rather than serve as a conduit for exporting capital from the region (especially from the Gulf) abroad, Lebanon can serve as a center to bring capital in, both for its own immediate reconstruction needs and to finance investments in the region, especially in as yet underdeveloped financial markets like Syria. The preliminary signs are that Lebanon's new strategy is already bearing fruit - with the sale of shares in Solidere, the recent Eurobond issue, and the steady inflow of capital to purchase Treasury bills. It is interesting to note that much of this capital is return flight capital from the earlier era.

Lebanon's extensive network of expatriates represents an important asset in addressing some of the constraints to successful implementation of the strategy outlined in Dr. Saidi's paper. In addition to providing a source of capital, the return of the Lebanese who were previously working at the international level can meet the serious shortage of skills in their country's capital markets. There are already promising signs, such as the recent establishment (often with expatriate involvement) of a number of investment banks as well as investment and mutual funds to develop the market for equity and corporate bonds. Hence, while there is demand for Lebanese debt and equity, the problem now seems to be shifting to the supply side as firms traditionally owned by families need to adjust to modern corporate finance.

Nonetheless, there are still several building blocks missing if Lebanon hopes to play a new role as a financial center. Without even greater reliance on the private sector, financing the government's sizable fiscal deficit will mean continued crowding out of the private sector through higher interest rates. Improved tax collection can help to reduce fiscal pressures, but there also needs to be greater reliance on the private sector to finance reconstruction and investment costs directly. One important mechanism is the private provision of public services through privatization or the creation of competitive arrangements for private concessions or management contracts. Such techniques are being used in Lebanon in some areas (such as Solidere, telecommunications, and a possible toll road), but they could be more extensive. The key issues will be the development of regulatory capacity, transparent contracting and operating procedures, and the enforcement of clear rules concerning conflict of interest.

A second mechanism for addressing the credit crunch facing Lebanon's private sector is the development of long-term savings instruments to complement the inflow of foreign capital. While some Lebanese banks are beginning to issue longer term certificates of deposit, the use of mandatory private pension funds to mobilize savings which are seeking investments with longer maturities remains unexplored. The passage of legislation enabling the emergence of competing private pension funds would play a major role in the development of Lebanon's capital markets, as the experience in countries such as Chile has shown.

There are also elements of current government policy that threaten to undermine the emergence of Beirut as a financial center. The high deficit, high interest rate policy has been important for rapid reconstruction, but it has also made life easy for banks by providing safe investments with high returns in the form of Treasury bills. This will slow both the development of credit evaluation skills and the emergence of new lines of business in the Lebanese financial market. Moreover, the recent establishment of specialized banks for agriculture, housing and industry and tourism (which will receive privileges such as government guarantees) threatens to undercut market solutions to the problems of longer term lending, small and medium enterprise credit, and equity markets.

The extent to which Lebanon will be able to spread its experience in attract-

ing capital to the rest of the region depends on events and decisions outside Lebanon's control. Will countries in the region continue to liberalize their financial markets and facilitate international transactions? Will Middle Eastern firms be permitted to cross-list debt and equity instruments on Beirut's financial markets? Will domestic policy reforms in Middle Eastern countries proceed credibly and at a pace that attracts flight capital home? These are questions that remain unanswered, and Lebanon's strategy must take these uncertainties into account. Although Lebanon continues to have regional comparative advantages (such as language skills and ready information about regional markets), prudence would seem to require aiming for international competitiveness in financial services - both because the opportunities in regional markets remain unclear and because if such markets are open to Lebanon, they will also be open to the rest of the world.

11

A Model of Treasury Bill Auctions

Ahmet Alkan

Introduction¹

Auctions are events designed to price a seller's item. A variety of auction formats exist; in particular, an auction may receive open bids or sealed bids, and various rules are used for specifying what a winner will pay. The auction format adopted may obviously have an influence on the revenue accruing to the seller. The present paper explores whether a multiprice (winners pay their own bid) or a uniprice (winners pay the highest losing bid) sealed-bid auction is more advantageous to a seller in the case of multi-unit auctions. Important examples are auctions of Treasury debt, shares of public firms to be privatized, and pollution rights.

Milton Friedman (1960) suggested that the U.S. Treasury switch from the multiprice to the uniprice rule. The U.S. Treasury did in fact conduct such an experiment in some of its auctions in the 1970s but switched back shortly thereafter. Throughout the enduring controversy surrounding this matter, most theorists have advocated the uniprice auction, but practice has more often than not favored the multiprice model. Instigated partly by events in the U.S. market in 1990 and 1991 stemming from participants' misbehavior, the issue has recently witnessed a revival. Following a review of its rules (see Joint Report 1992), the U.S. Treasury has chosen once again to experiment with, and is currently implementing, the uniprice format in the auctions of two-year and five-year notes. In an article written shortly before the move by the U.S. Treasury, Chari and Weber (1992) called for a switch to the uniprice rule. In their more recent survey of related theory and empirical work, Bikhchandani and Huang (1993) also express support for the uniprice auction, albeit in more cautious terms.

¹ This research was preceded and has been inspired by an empirical study of the Turkish Treasury Bill auctions. The study analyzed as data all the individual bids registered at every weekly auction held over 1987 - 89 and matched its findings with those obtained through interview/questionnaire surveying of the participant banks. Preliminary versions of this paper have been presented in a department seminar at Université Libre de Bruxelles in 1992 and at the Mathematical Economics Workshop organized by the Institute for Pure and Applied Mathematics (IMPA), Rio de Janeiro, in 1993.

The main argument behind all this support has been that the average payment made in an auction (the auction price, or equivalently, the seller's revenue), is likely to be higher under the uniprice rule than under the multiprice rule.²

The present paper will build and analyze a model of auctions which incorporates the presence of resale markets following an auction and which alongside allows scrutiny at a dimension largely ignored in previous analyses, namely the volatility of the auction price. The findings are pronouncedly in favor of the multiprice rule. Before commenting further on what these findings are, I will briefly review the arguments put forward on why the uniprice rule would generate higher expected revenue:

(i) In the so-called correlated-values model, where buyers' valuations (or estimates thereof) of the items for sale are assumed to be positively correlated, auction theory predicts that participants shade their bids more in the multiprice auction than in the uniprice auction, to such a degree that the (average) winning bid in the former is lower than the highest losing bid in the latter (Milgrom and Weber [1982]). Another way to express this phenomenon is that, because of the difference in the payment rule, the winner's curse is more severe in the multiprice than in the uniprice auction, and (sophisticated) bidders take this into account. (The winner's curse is due to the fact that the winners will be those bidders who have the highest valuations/estimates, who will then have to downgrade their valuations in view of the correlation, and who would thus have overpaid had they bid naively not foreseeing all this.) Expected revenue is the same when and only when no correlation exists among buyers' valuations/estimates. Therefore, to the extent that correlation exists, the uniprice rule is to be preferred. Participants in Treasury debt auctions are typically dealers who sell in the same post-auction market and whose valuations are therefore correlated.

(ii) Due to higher severity of winner's curse effects, which in general diminish with reduced uncertainty, information gathering has a higher return in the multiprice auction. The uniprice auction gives rise to less information acquisition

² To the extent that manipulation may adversely affect revenue, sellers are certainly concerned about which auction format is more susceptible to manipulation, but opinions vary in this regard. In fact, Friedman (1960) asserts that the uniprice format will widen participation and thereby render collusion more difficult. Opposing this view, Bikhchandani and Huang (1993) express disbelief that there will be a substantial participation effect and hypothesize that the uniprice auction is more susceptible to manipulation. Chari and Weber (1992), on the other hand, cite "less market manipulation" as one of two ways in which the format change will improve welfare; in addition, they suggest that the when-issued market will shrink, which in turn will lessen manipulation.

by comparison. In equilibrium *ex post*, the cost of this incremental information is a loss of revenue to the seller. This point is emphasized by Chari and Weber (1992).

(iii) Secondary market buyers are less informed than auction participants. They infer value by considering what bids have been made in the auction. Auction participants therefore take this into account and signal value to future customers. This signalling effect pulls bids higher, the more so under the uniprice rule. This result is noted by Bikhchandani and Huang (1989).

(iv) Because bid preparation is simpler and hence less costly in the uniprice auction, participation will be higher and, in turn, so will revenue. This has been argued by Friedman (1960). Chari and Weber (1992) also cite this effect, but Bikhchandani and Huang (1993) have reservations about it.

With particular reference to Treasury securities for which there exist strong secondary markets, the upshot of points (i) and (ii) above is that the secondary market price will exceed the average auction price by a greater margin in the multiprice auction than in the uniprice auction. The differential between the two margins, assuming competitive entry into the bidders' market, is properly to be attributed to the evidently higher level of information acquisition activity that needs to be conducted under the multiprice rule. In other words, auction participants are intermediaries who gather and process information at cost, and this cost is higher in the multiprice auction. Chari and Weber (1992) add that this incremental cost has "dubious social value" and is "wasteful". Following changes in the payment rule - so they forecast - the return on the associated investments will accrue to the Treasury over time.

The policy thrust of the findings in this paper is that the incremental information that needs to be acquired in the multiprice auction at a social cost may well have a social value, namely that of curbing the potential volatility of the auction price, which risk-averse buyers and sellers would be mindful about. This paper will show that the higher the degree of "intermediation" or "resale orientedness" in the auction, the lower the dispersion of bids (ultimately reduced to zero) under the multiprice rule, whereas bidding is unaffected by this degree under the uniprice rule. Furthermore, this beneficial reduction of uncertainty regarding the auction price comes with no loss in expected revenue - the expected auction price is invariant under the degree of resale orientedness as well as the payment rule.

The model employed here is in all ways identical to the classical model with which auction theory has started, except for the presence of two features which together intend to capture the effect of the resale motive: This paper holds that (i) participants resell an exogenously-specified portion of their purchase in the secondary market, and that (ii) the secondary market clears at the average auction price materialized. Also, buyers' valuations (on the portion of their purchase which they do keep) are taken to be uncorrelated.

So far, the paper has dwelled on the policy issue of whether one payment rule is better than the other. But the reader should notice that the paper addresses a challenge at another level. Auction theory has advanced little beyond the static model. The investigation of Bikhchandani and Huang (1989) is a step in the difficult direction of capturing the essentials of auctions with resale markets. The present work has departed from a similar motivation. Further comments on the model and its findings have been left to the concluding section of the paper.

The model

There are m identical items to be auctioned and $n+1$ buyer participants where $n \geq m$. Each participant places a sealed bid for one item. The m highest bidders each pay according to a prespecified rule and receive an item. (A tie-breaking rule is applied in the case of ties; such a rule need not be specified here, as ties will turn out to be zero probability events.) Buyers maximize expected gain, that is, they "value" less payment. The auction is called multi-price or uniprice depending on whether payment equals one's own bid or the $(m+1)$ st highest bid, that is, the highest losing bid.

In the so-called independent private values model, the value of an item to a buyer is a number known by the buyer but not by the others; it is called his personal value and is drawn independently from a common distribution. The model introduced here is the same in every respect, with the exception that buyers' valuations are "semi-endogenous" in the following way: Let us call the average payment made in an auction the auction price. The paper stipulates that the value of an item for an auction participant u with personal value $V(u)$ is $\delta p + (1-\delta) V(u)$, where δ is some prespecified "weight" ($\delta \in \Delta = [0, 1]$) and p is the auction price to materialize in that auction. The paper suggests δ to be interpreted as the "degree" of resale orientedness of the auction. As one parable, for example, consider that there is a post-auction market

expected to clear at the auction price, and that winners sell a portion δ of their purchase in this market while keeping the remainder for personal use.

Formally, let $\mathbf{I} = [0,1]$ be the set of all potential buyers u facing an auction, each being equally likely to be one of the participants and ordered such that personal values $V(u)$ are increasing in u with $V(0) = 0$, $V(1) = 1$. An auction game is then described by a quintuple $\Gamma(m, n, V, \delta, R)$ where, in addition to what has already been specified, the last variable R is either M or U depending on whether the payment rule is multiprice or uniprice. A (pure) strategy of a buyer in such a game is a bid function b defined on \mathbf{I} and employed by him in the sense that $b(u)$ is the bid that he would make if his identity were u . It will be assumed that the specification of $\Gamma(m, n, V, \delta, R)$ is common knowledge among all buyers.

One thus has, for each m, n , and distribution V of personal values, a double family of auction games indexed by $\delta \in \Delta$. The query to be pursued here is on how bidding behavior and the auction price (that is, the seller's revenue) are affected by the size of δ , comparatively, in multiprice and uniprice auctions. To motivate this query, let us briefly consider the two extreme degrees $\delta=0$ and $\delta=1$. The study of the former case, which originated more than three decades ago (Vickrey 1960), has plenty of predictive information about behavior and bears in particular the celebrated revenue equivalence theorem: the auction price is the same in expectation whether the payment rule is multiprice or uniprice. At the other extreme $\delta=1$, on the other hand, indeterminacy reigns. The auction game that obtains at this limit, which the present model does not allow, has a continuum of Nash equilibria. It is easily seen, in fact, that any real constant c describes an equilibrium, as bidding c is clearly the best response to all others' bidding c , whence the auction price equals c , whether the payment rule is multiprice or uniprice. Thus, while it is determinate that all buyers identically gain zero in any equilibrium, the auction price is indeterminate - indeed, entirely arbitrary - in either auction when $\delta = 1$. The games that obtain at $\delta=0$ and $\delta=1$ will be referred to as the classical and the (purely) speculative games, respectively.

Analysis and results

In what follows, the paper will consider m, n, V fixed, and let $\Gamma(\delta, R) = \Gamma(m, n, V, \delta, R)$ be any auction game as described previously. All results to be stated below are well known to hold for $m = 1$ when the model is reduced to the

classical case. The paper will further assume that $m \geq 2$.

Existence and uniqueness of equilibrium

This subsection establishes the existence and uniqueness of equilibrium.

The uniprice auction: the dominant strategy equilibrium

Proposition 1: It is a dominant strategy for any buyer $u \in \mathbf{I}$ in a uniprice auction $\Gamma(\delta, U)$ to bid his personal value $V(u)$.

This result says that, whatever δ is and whatever the personal values of all other participants may actually be, it is impossible for any buyer to achieve a higher profit than what he would achieve by bidding his personal value. The proof is straightforward and the same as in the classical case.

The multiprice auction: the existence and uniqueness of symmetric equilibrium

Following standard methodology, the paper will restrict attention to the analysis of symmetric Nash equilibria, that is, those equilibria where every buyer employs the same bid function. Formally, a bid function b constitutes a symmetric equilibrium for $\Gamma(\delta, M)$ if every buyer $u \in \mathbf{I}$ maximizes his expected gain by bidding $b(u)$ given that every other buyer employs b .

The following is the first main result of the paper:

Theorem 1: There exists for every multiprice auction $\Gamma(\delta, M)$ a unique increasing bid function which constitutes a symmetric equilibrium.

Assumption: The proof given utilizes the assumption that V is differentiable, and that $(1-u)V$ is strictly concave, that is, $(1-u)V' - V$ is decreasing in $u \in \mathbf{I}$.

Notation: Call F_{mn} the cumulative probability distribution of the m^{th} highest of n independent draws from the uniform distribution on the unit interval and call f_{mn} the density function of F_{mn} .

Towards proving Theorem 1, take any buyer $u \in \mathbf{I}$ in the auction $\Gamma(\delta, M)$, and let x be his bid. Suppose that b is an increasing bid function employed by all the other n buyers (the opposition). Buyer u wins an item if and only if $z \leq x$ where z is the m^{th} highest bid among the opposition. Since b is increasing, $z = b(y)$, where y is the m^{th} largest buyer in the opposition. Thus, u wins if and

only if $b(y) \leq x$, that is, $y \leq b^{-1}(x)$. Note that if u wins, then the $m-1$ other winners are each uniformly distributed with density $1/(1-y)$ on the subinterval $[y, 1]$. So the expected auction price, conditional on u winning with a bid x and y being the m^{th} largest buyer in the opposition, is given by

$$x/m + (m-1)/m \int_y^1 b(w)/(1-y) dw.$$

Having made a bid x , the expected gain of u is

$$R(x) = \int_0^{b^{-1}(x)} ((1-\delta) V(u) + \delta (x/m + (m-1)/m \int_y^1 b(w)/(1-y) dw) - x) f_{mn}(y) dy.$$

Differentiating $R(x)$ with respect to x , one gets

$$R'(x) = f_{mn}(b^{-1}(x)) ((1-\delta) V(u) - (1-\delta/m)x) / b'(b^{-1}(x)) - (1-\delta/m) F_{mn}(b^{-1}(x)) - \delta (m-1) f_{mn}(b^{-1}(x)) B(b^{-1}(x)) / m (1-b^{-1}(x)) b'(b^{-1}(x))$$

where it is defined for $y \in I$ that

$$(1) \quad B(y) = - \int_y^1 b(w) dw.$$

Note that $b = B'$.

Suppose that b constitutes a symmetric equilibrium. Then, $x = b(u)$. Now, setting $u = b^{-1}(x)$, defining the new parameter

$$(2) \quad k = (\delta m - \delta)/(m - \delta),$$

and rearranging the optimality condition $R'(x) = 0$, one obtains the second order differential equation

$$(3) \quad F_{mn} B'' + f_{mn} B' + k f_{mn}/(1-u) B = (1-k) f_{mn} V$$

in $u \in I$. One has from (1) the condition

$$(4) \quad B(1) = 0.$$

Note that the parameter k increases in δ and takes the unit interval onto itself

(for every $m \geq 2$). We shall refer to the differential equation (3) as $\mathbf{B}(k)$.

To recapitulate, if b is a bid function which is increasing on \mathbf{I} and which constitutes a symmetric equilibrium for the auction $\Gamma(\delta, M)$, then B defined by (1) is a solution of $\mathbf{B}(k)$ that fulfills condition (4).

Proof of the theorem: In view of the preceding paragraph, the proof of Theorem 1 follows from Lemmas 1 and 2 stated below.

Lemma 1: There exists a unique solution B of the differential equation $\mathbf{B}(k)$ which is defined on \mathbf{I} and which satisfies (4).

We shall make use of the expression

$$(5) f_{mn}(u) = (n! / (n-m)! (m-1)!) u^{n-m} (1-u)^{m-1}$$

and the identity

$$(6) (n+1) F_{mn} = f_{1(n+1)} + \dots + f_{m(n+1)}.$$

Applying (5) and (6) to (3) and cancelling $(n! / (n-m)! (m-1)!) u^{n-m}$ on both sides, one gets that $\mathbf{B}(k)$ is equivalent to

$$(7) u \Phi_{mn} B'' + (1-u)^{m-1} B' + k (1-u)^{m-2} B = (1-k) (1-u)^{m-1} V,$$

where

$$\begin{aligned} \Phi_{mn} &= F_{mn} / (n! / (n-m)! (m-1)!) u^{n-m+1} \\ &= (n-m)! (m-1)! \sum_0^{m-1} 1 / ((n-j)! j!) u^{m-1-j} (1-u)^j \end{aligned}$$

is positive for all $u \in \mathbf{I}$. It is readily checked that $\mathbf{B}(k)$ has a singularity at $u = 0$ and is regular elsewhere on \mathbf{I} .

Proof of Lemma 1 (Sketch): It is straightforward to compute that the two solutions of the indicial equation of $\mathbf{B}(k)$ are $r = 0$ and $r = -(n-m)$. The general solution B of $\mathbf{B}(k)$ is hence of the form

$$B = c_1 B_1 + c_2 B_2 + B^*$$

where B^* is any particular solution, and B_1, B_2 are two independent solutions of the homogeneous equation of $B(k)$ of the form

$$\begin{aligned} B_1(u) &= \sum_{j=0}^{\infty} a_j u^j, \\ B_2(u) &= d B_1(u) \ln u + u^{-(n-m)} \left(\sum_{j=0}^{\infty} d_j u^j \right). \end{aligned}$$

B defined at $u = 0$ implies $c_2 = 0$. Condition (4) determines c_1 uniquely as asserted.

Lemma 2: If B is a solution of $B(k)$ as in Lemma 1, it then follows that B' is increasing on I .

Proof: Let B be a solution of $B(k)$ as in Lemma 1. Then

$$\begin{aligned} (8) \quad & u \Phi_{nn} B''' + (\Phi_{nn} + u \Phi_{nn}') + (1-u)^{m-1} B'' - \\ & (m-1-k)(1-u)^{m-2} B' - k(m-2)(1-u)^{m-3} B \\ & = (1-k)(1-u)^{m-2} ((1-u)V' - (m-1)V) \end{aligned}$$

which one obtains upon differentiating (7). The proof is in two steps.

Step 1: B' is increasing on an interval $[0, u]$ for some $u \in (0, 1)$.

Suppose the contrary, that is, B' is nonincreasing on $[0, u]$ for some $u \in (0, 1)$, and let u^* be the maximum of all such u if a maximum exists. Then

$$(9) \quad B''(0) \leq 0,$$

$$(10) \quad B''(u^*) = 0, \quad B'''(u^*) \geq 0.$$

It follows from (8), (9), and (10) that

$$\begin{aligned} (11) \quad & (m-1-k) (B'(0) - B'(u^*)) \leq (m-2) k (B(u^*)/(1-u^*) - B(0)) \\ & + (1-k) ((1-u^*) V'(u^*) - (m-1) V(u^*) - (V'(0) - (m-1)V(0))). \end{aligned}$$

From (7), (9), and (10), on the other hand,

$$k (B(u^*)/(1-u^*) - B(0)) \leq B'(0) - B'(u^*) + (1-k) (V(u^*) - V(0)),$$

and using it in (11) yields

$$B'(0) - B'(u^*) \leq (1-u^*) V'(u^*) - V(u^*) - (V'(0) - V(0)).$$

By assumption, the right hand side above is negative, which says that $B'(0) < B'(u^*)$. Upon this contradiction, therefore, it can only be that u^* does not exist, that is, that B' is nonincreasing throughout $I = [0,1]$. Now, evaluating (8) at $u = 0$,

$$(m-1-k) B'(0) = (\Phi_{mm}(0) + 1) B''(0) - k(m-2) B(0) - (1-k) (V'(0) - (m-1)V(0)).$$

From (9) and the facts that $V(0) = 0$, $V'(0) > 0$, then

$$B'(0) < -k(m-2)/(m-1-k) B(0) \leq -B(0) = \int_0^1 B'(w) dw \leq B'(0),$$

where the last inequality follows from B' being nonincreasing on I . Step 1 follows from this contradiction.

Step 2: B' is increasing for all $u \in I$.

Suppose the contrary. Then, in view of Step 1 and the fact that $B''(1) = 0$ (from [7]), there exist $u, u' \in (0,1]$ such that $u < u'$, $B'(u) \geq B'(u')$, and

$$(12) \quad B''(u) = 0, \quad B'''(u) \leq 0,$$

$$(13) \quad B''(u') = 0, \quad B'''(u') \geq 0.$$

From (7), (12), and (13),

$$(14) \quad k(B(u)/(1-u) - B(u')/(1-u')) = B'(u') - B'(u) + (1-k)(V(u') - V(u)).$$

Using (8), (12), (13), and (14), one gets as in Step 1 that

$$B'(u) - B'(u') \leq (1-u') V'(u') - V(u') - ((1-u) V'(u) - V(u)) < 0,$$

and reaches the contradiction $B'(u') > B'(u)$.

The independence of expected revenue

We shall now turn to the second main result of the paper, stated in the form of Theorem 2 below, which says that the expected auction price is the same

for all degrees $\delta \in \Delta$ and under either the multiprice or the uniprice rule.

Let us consider first the multiprice auction, let B be the unique solution of $B(k)$ asserted in Theorem 1, and so $b = B'$ be the unique symmetric equilibrium bid function for $\Gamma(\delta, M)$. When an ordered population y_1, \dots, y_{n+1} (that is, n independent draws of buyers listed such that $y_1 \geq \dots \geq y_{n+1}$) plays $\Gamma(\delta, M)$ as predicted by the symmetric equilibrium, therefore, the auction price $p(\delta, M) = (b(y_1) + \dots + b(y_m))/m$. Taking expectation over all possible draws of populations, the expected auction price of $\Gamma(\delta, M)$ is

$$(15) \quad Ep(\delta, M) = 1/m \int_0^1 (f_{l(n+1)}(w) + \dots + f_{m(n+1)}(w)) B'(w) dw.$$

For the uniprice auction, on the other hand, it follows from Proposition 1 that $p(\delta, U) = y_{m+1}$, hence

$$(16) \quad Ep(\delta, U) = \int_0^1 f_{(m+1)(n+1)}(w) V(w) dw,$$

a constant independent of δ , to which we shall refer below as π .

Theorem 2: The expected auction price is π for all $\delta \in \Delta$ under both the multiprice and the uniprice rule.

Proof: Multiply $B(k)$ on both sides by $(n+1)(1-u)/(m(1-k))$ to get

$$(17) \quad \begin{aligned} & (n+1)/(m(1-k)) (1-u) (F_{mn} B')' + (n+1) k/(m(1-k)) f_{mn} B \\ & = (n+1)/m (1-u) f_{mn} V = f_{(m+1)(n+1)} V. \end{aligned}$$

Upon integrating (17), the two terms on the left side by parts, and using $F_{mn}(0) = B(1) = 0$, one gets

$$\begin{aligned} & (n+1)/(m(1-k)) \int_0^1 F_{mn}(w) B'(w) dw - (n+1) k/m(1-k) \int_0^1 F_{mn}(w) B'(w) dw \\ & = \int_0^1 f_{(m+1)(n+1)}(w) V(w) dw, \end{aligned}$$

and so

$$(18) \quad (n+1)/m \int_0^1 F_{mn}(w) B'(w) dw = \int_0^1 f_{(m+1)(n+1)}(w) V(w) dw.$$

The theorem now follows from (6), (15), and (16).

Dispersion of bids

Having shown above that the auction price is the same in expectation for all $\delta \in \Delta = [0, 1]$ whether the auction is multiprice or uniprice, the paper will then show in Theorem 3 below that the range of bids monotonically shrinks to 0 as the resale orientedness parameter δ increases from 0 to 1 in the multiprice auction. Recall from Proposition 1 that bidding is unaffected by δ in the uniprice auction.

Formally, consider the family Γ of auctions $\Gamma(\delta, R)$, $\delta \in \Delta$. Let b_δ be the unique increasing symmetric equilibrium bid function for $\Gamma(\delta, M)$ and define $L(\delta, M) = b_\delta(0)$, $H(\delta, M) = b_\delta(1)$. Thus, $L(\delta, M)$, $H(\delta, M)$ are respectively the lowest-value bid and the highest-value bid, and naturally all bids fall in the range $[L(\delta, M), H(\delta, M)]$, for $\Gamma(\delta, M)$. Define $L(\delta, U)$, $H(\delta, U)$ analogously.

Theorem 3:

- (i) $L(\delta, M)$ increases and $H(\delta, M)$ decreases as $\delta \in \Delta = [0, 1]$ increases.
- (ii) $L(0, M) = 0$, $H(0, M) < 1$, and $\lim_{\delta \rightarrow 1} L(\delta, M) = \lim_{\delta \rightarrow 1} H(\delta, M) = \pi$.
- (iii) $L(\delta, U) = 0$, $H(\delta, U) = 1$, for all $\delta \in \Delta$.

Proof: As mentioned, (iii) follows from Proposition 1. Let B_k be the unique solution of the differential equation $\mathbf{B}(k)$ as asserted in Lemma 1 and recall that $b_\delta = B_k$ where $k = (\delta m - \delta)/(m - \delta) \in \Delta$.

The assertion in (ii) for the classical multiprice auction $\Gamma(0, M)$ that says $L(0, M) = 0$, $H(0, M) < 1$ is well known and easily checked. For the remaining assertion in (ii), check that $B_1(u) = c + du$ is the general solution of $\mathbf{B}(1)$ for arbitrary constants c, d . By continuity, $B_k(u)$ approaches $B^*_1(u) = c^* + d^*u$ for some fixed constants c^*, d^* as $k \rightarrow 1$ and for all $u \in \mathbf{I}$. Hence, $B_k(u)$ approaches $B^*_1(u) = d^*$ as $k \rightarrow 1$ for all $u \in \mathbf{I}$. It follows from Theorem 2 that $d^* = \pi$. This concludes the proof of (ii), since $k \rightarrow 1$ as $\delta \rightarrow 1$.

In order to prove (i), we shall apply the perturbation method: Take any $k \in \Delta$ and $h = k + \varepsilon \in \Delta$ for ε sufficiently small. Then $B_h(u)$ is given by the perturbed solution $B_k(u) + \varepsilon P(u) + O(\varepsilon^2)$, where $P(u)$ is a solution on \mathbf{I} of the following differential equation (obtained by substituting for $B_h(u)$ in the perturbed equation (7) and equating the terms with coefficient ε),

$$(19) \quad u \Phi_{nn} P'' + (1-u)^{n-1} P' + k (1-u)^{n-2} P = - (1-u)^{n-2} ((1-u)V(u) + B_k(u)),$$

which additionally satisfies the condition

$$(20) \quad P(1) = 0.$$

Proof of (i), hence the theorem, now follows from the application of Lemma 3 stated below.

Lemma 3:

(i) There exists a unique solution P of the differential equation (19) which is defined on I and which satisfies (20). Furthermore,

(ii) P' is decreasing on I .

(iii) $P'(0) > 0$, $P'(1) < 0$.

Proof: The proof of (i) is identical to the proof of Lemma 1, and (ii) is proved in a similar manner to Lemma 2. To prove (iii), simply observe that if $P(0) \leq 0$ then, in view of (ii), the expected auction price $Ep(k', M)$ would be less than π , thus contradicting Theorem 2. Similarly, if $P(1) \geq 0$ then, in view of (ii), $Ep(k', M)$ would be greater than π .

Explicit solutions in a special case

In this section we shall take $V(u)$ to be the identity function $I(u) = u$, that is, consider that personal values are uniformly distributed on the unit interval, and first look at 2 units being auctioned. It so happens that the family of such auctions $\Gamma(2, n, I, \delta)$ constitutes a special case, and there exists an explicit expression for the associated symmetric equilibrium bid functions which will be spelled out below.

Let $b_{n\delta}$ be the symmetric equilibrium bid function for $\Gamma(2, n, I, \delta)$. Recalling the proof of Theorem 1 and differentiating (1), $b_{n\delta} = B'$ where B is the unique solution of the equation $B(2, n, I, k)$

$$(21) \quad (n - (n-1)u) u B'' + n (n-1) (1-u) B' + n (n-1) k B \\ = n (n-1) (1-k) u (1-u)$$

that satisfies the associated boundary conditions.

The general solution to (21) is the sum of two solutions

$$B(u) = B^*(u) + A(u)$$

where $B^*(u)$ is a particular solution to (21), and $A(u)$ is the general solution to the homogeneous equation

$$(22) \quad (n - (n-1)u) u B'' + n(n-1) (1-u) B' + n(n-1) k B = 0.$$

It is straightforward to find

$$B^*(u) = (1/(n-1)(2n+2-nk)k) (-n(n-1)k - 2 + (n(n-1)k+2)k u + n(n-1)k(1-k) u^2).$$

In order to reach the general solution to (22), let $z = (n-1)/n u$ and define $P(z) = B(u)$. Upon this change of variable, (22) becomes

$$(23) \quad (1 - z) z P'' + (n-1 - n z) P' + nk P = 0,$$

which is the hypergeometric equation

$$(1 - z) z P'' + (n-1 - (\alpha + \beta + 1) z) P' - \alpha\beta P = 0$$

where

$$\alpha = [(n-1) + ((n-1)^2 + 4nk)^{1/2}]/2, \\ \beta = [(n-1) - ((n-1)^2 + 4nk)^{1/2}]/2.$$

Two linearly independent solutions of (23) are the hypergeometric series $F(\alpha, \beta, n-1, z)$ and $F(\alpha, \beta, n-1, z) \ln z$. The general solution of (22) is thus

$$B(u) = B^*(u) + (c + d \ln ((n-1)/n u)) F(\alpha, \beta, n-1, (n-1)/n u)$$

for arbitrary constants c, d . From the condition that our solution be defined at $u = 0$, it follows that $d = 0$, while from $B(1) = 0$, one has $c = -B^*(1) / F(\alpha, \beta, n-1, (n-1)/n)$. Thus

$$(24) \quad B^*(u) - B^*(1) F(\alpha, \beta, n-1, (n-1)/n u) / F(\alpha, \beta, n-1, (n-1)/n)$$

is the unique solution of $B(2, n, 1, k)$ on the closed unit interval that satisfies $B(1) = 0$. Upon differentiating (24), one gets

$$b_{n\delta} = \left(1 + kn(n-1)/2 + (1-k)(n-1)u + (1-k)F(1+\alpha, 1+\beta, n, (n-1)/n)u \right) / F(\alpha, \beta, n-1, (n-1)/n) / ((n-1)(n+1-kn/2))$$

where $k = \delta/(2-\delta)$.

Below are displayed several instances of $b_{n\delta}$. (In Figures 1-3, $b_{n\delta}(0) \geq b_{n\delta'}(0)$ if $\delta \geq \delta'$, while in Figure 4, $b_{n\delta}(0) \geq b_{n'\delta'}(0)$ if $n \geq n'$.)

Figure 1: Bid functions when 3 buyers bid against 2 units with $\delta \in \{.1, .5, .9\}$

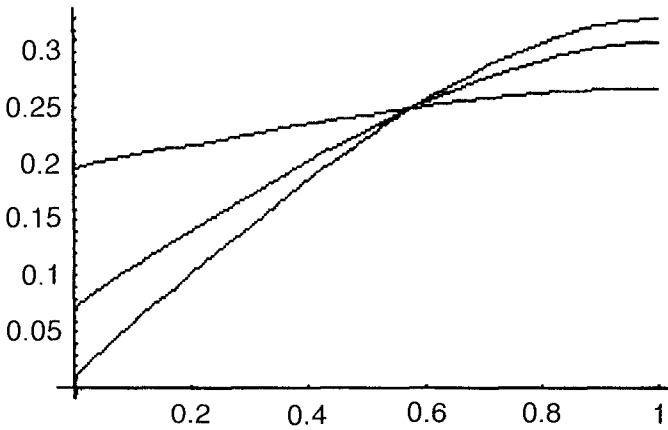


Figure 2: Bid functions when 4 buyers bid against 2 units with $\delta \in \{.1, .5, .9\}$

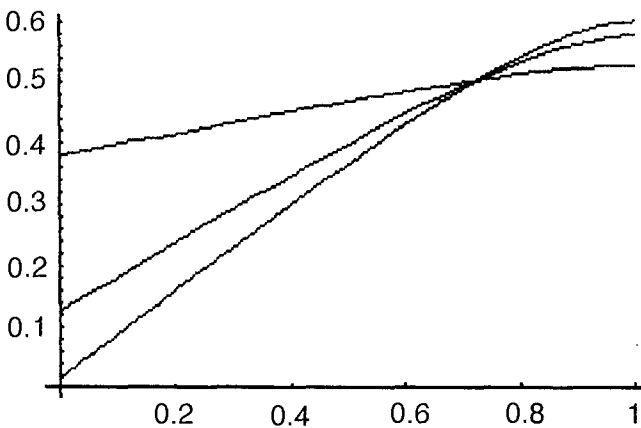


Figure 3: Bid functions when 8 buyers bid against 2 units with $\delta \in \{.1, .5, .9\}$

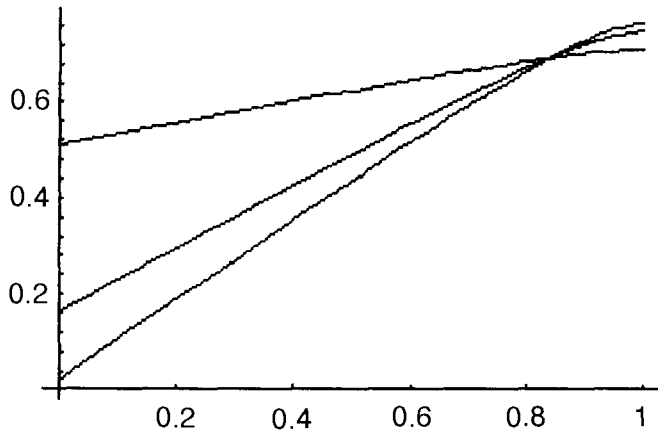
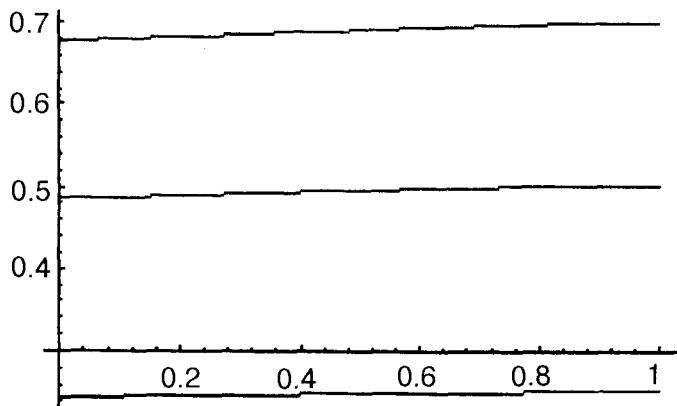


Figure 4: Bid functions when $n \in \{3, 4, 8\}$ buyers bid against 2 units with $\delta = .99$



Concluding remarks

This paper has modelled an auction with resale as a one-period game that has a parameter as a measure of resale orientedness and an endogenous valuation feature as proxy for the secondary market. It has been shown that, while there is utter indeterminacy in the (purely speculative) game with full resale, a unique symmetric equilibrium exists for all other degrees of resale under the multiprice rule. The findings then say that (i) the expected auction price is invariant throughout, and (ii) bids are less dispersed under the multiprice rule

than under the uniprice rule - in fact, all the less so the higher the degree of resale. As a policy implication, these results thus lend support to the multiprice rule on grounds of price stability next to revenue equivalence.

To be sure, the two features in the aforementioned model have an *ad-hoc* nature and require justification. Regarding the second of these, let it be stated as a conjecture that the model would have borne nearly the same results if, instead of postulating that the secondary market cleared at the auction price, it had been postulated that it did so with a margin added. The paper next refers to empirical documentation with reference to Treasury auctions. Cammack (1991) has measured for the period 1973-84 that the margin between the post-auction market price and the auction price for U.S. Treasury bill auctions is 4 to 7 basis points, one basis point being one-hundredth of 1 percent. Empirical observation plus conjectured robustness thus provides one level of justification. One may further regard and tolerate the secondary market clearing at the average auction price (plus a margin) as an equilibrium nonprofit condition on participants' profits.

Regarding the "degree of resale" parameter δ , a more legitimate modelling would have δ as a decision open to individual participants. The model then becomes rather intractable mathematically. It would not be surprising, however, if the model turned out to be robust in this regard as well.

It is also worthwhile to stress that expected revenue equivalence (Theorem 2) is likely not to hold if buyers' primitive valuations are correlated to any degree, and that expected revenue is then likely to emerge one degree higher under the uniprice rule. This paper concludes with a final conjecture that the shrinkage in the dispersion of bids (Theorem 3) will still continue to hold, thus lending support to the multiprice rule.

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Comments

Hasan Ersel

Auctions as a method for ascertaining the best price of a good are known to have been used in Babylon since 500 BC. In Latin *actio* means "public sale" that is derived from *augere*, to increase. In the context of the present paper, however, it would be misleading to establish a relation between such concepts as "auction" and "increase"; for the paper refers to a particular type of auction, namely the English Auction. Indeed, the history of commerce reveals that many types of auctions have been designed and implemented. In the last three decades economists have become increasingly interested in identifying the relative merits of alternative auction models. As mounting public sector deficits and their mode of financing have become almost a universal problem, policy-makers have also been interested in this issue, particularly as regards Treasury-bill auctions.

Ahmet Alkan deals with one of the most debated issues concerning T-bill auctions, namely whether uniform or discriminatory pricing is in some sense preferable. As discussed in his paper, government reports and the writings of academic researchers both lead to the suggestion that uniform-price auctions, in addition to being more easily implemented, are preferable on the grounds that they fare better in reducing the so-called "winner's curse" effect. However, the author demonstrates that these results do not hold once a more realistic valuation rule is allowed for bidders. Secondly, the paper also addresses a relatively neglected aspect of auctions - the stability of prices.

A heuristic interpretation of the results

In Alkan's paper the valuation of primary dealers¹ depends not only on their personal value v , but also on the auction price (that is, the average payment made in an auction) which is expected, p . Subsequently, let $\delta \in [0,1]$ and define the valuation of a primary dealer as $\mu = \delta p + (1 - \delta)v$. Alkan offers one interpreta-

¹ In this note, in order to distinguish buyers in the primary market from those in the secondary market, the term "primary dealers" is used for the former group. This has a special meaning when one focuses on the market for Treasury bills in the United States, since only certain financial institutions - called primary dealers - are allowed to bid in Treasury bill auctions there. In the case of Turkey, however, this restriction does not apply, even to individuals. Therefore, the term in that context simply means buyers in a Treasury bill auction.

tion for this type of valuation (referred to as semi-endogenous in his paper). If δ is taken as the portion of T-bills that is expected to sell in the secondary market, then this valuation rule means that the primary dealer looks at the weighted sum of its personal value as well as his expected revenue from selling a portion of its purchase in the secondary market. It is indeed true that the primary dealers in T-bill auctions are intermediaries who aim at selling on the secondary market. However, Alkan's "parable" introduces more structure to the problem than this self-evident point would imply. First of all, by taking p as the clearing price for secondary markets, it is implicitly assumed that the buyers in the secondary market have access to information concerning the outcome of the auction. Secondly, it also implies that "cornering" is not a major issue.² Thirdly, by ruling out the case in which $\delta = 1$, it is assumed not only that there is a personal value for the primary dealer apart from the market price of the Treasury bill, but also that this personal value is separately taken into account in valuation.³

The problem dealt with in Alkan's paper can be summarized as follows: Under the semi-endogenous valuation assumption, what is the effect of the changes in δ on both bidding behavior and auction prices in uniform-price and discriminatory auctions? The answer to this question is given in two parts. The first one, which is summarized in Corollary 1, states that the expected auction price is invariable with respect to changes in δ and is not dependent on the type of auction used. Hence, the Revenue Equivalence Theorem holds. This result means that, in the semi-endogenous valuation case, the winner's curse cannot be a reason for choosing between alternative auction schemes. In addition, Theorem 3 presented in the paper is aimed at supplying the second part of the answer. Here the concern is whether a change in δ has any effect on the variance of primary dealers' bids. The findings indicate that the dispersion of bids decreases as resale propensity δ increases for discriminatory auctions, whereas it remains unchanged for uniform-price auctions.

² These two assumptions are said to be in line with the observations made in the Turkish market for Treasury bills. On the other hand, the problems manifested in the incidents that took place in the United States a few years ago indicate that the cornering problem is much more severe in the U.S. market for Treasury bills.

³ It is possible to give various explanations for this assumption. In Turkey, for example, banks are required to hold a portion of their liquidity requirements in the form of Treasury bills. Non-compliance with this requirement will subject banks to fines. On the other hand, in Turkey as well as in many other countries, Treasury bills constitute the base for repurchase agreements. Hence, the personal values of primary dealers may be quite different from the market price and may play a significant role in dealers' bidding behavior.

In conclusion, Alkan demonstrates that, once primary dealers are allowed to follow a more realistic valuation rule, expected auction prices for these two auction models do not differ. However, if the stability of auction prices is taken as another choice criterium, then discriminatory auctions fare better than uniform-price ones. These findings are most certainly sufficient in raising doubts about the strength of previous arguments favoring uniform-price auctions in more general and/or realistic environments. Although Alkan's paper offers rather strong arguments in challenging currently dominant views, it also confuses the reader in its treatment of correlated values. The model developed in the paper explicitly assumes no correlation whatsoever among valuations. Nonetheless, the existence of such correlations was also counted as one of the arguments favoring uniform-price auctions over discriminatory ones. Since the semi-endogenous nature of valuation stems from a common factor, that is, the expected auction price, and since primary dealers sell in the same secondary market, uncorrelated valuations can hardly be the outcome. This is a point which requires further elaboration.

Saad Andary

The following comments focus at first on the structure in which the material of Ahmet Alkan's paper is presented, and then on the content of the paper itself. In order to be presented at a workshop dealing with financial market development in the Middle East, this paper should have extended the model of auctions to at least two Middle Eastern countries which adopt the sale of Treasury bills by auction, namely Turkey and Lebanon. The current controversy in the United States as to whether or not the multiple-price auction system should be abandoned in favor of the uniform-price auction system could have been presented and contrasted with the current practice in the two Middle Eastern countries mentioned above.

The paper - as presented at the workshop - states that it seeks to build and analyze a model of auctions which uncovers a dimension largely ignored and which bears a policy implication in favor of the multiple-price auction. Nonetheless, it then proceeds to describe arguments relating to the uniform-price system without explaining what the ignored dimension actually is. There are a few points that need elaboration, while others need reorganization. For example, the definition of the two auction systems and the review of arguments supporting either one should be elaborated on. In addition, the findings of other studies, which are presented in the conclusion, should ideally be included in the introduction.

Moreover, the paper should supply the proof of Theorem 3, which indicates that the dispersion of bids decreases as the degree of resale orientedness δ increases to one. In the conclusion, the paper submits that more legitimate modelling would have the degree of resale (δ) as a decision open to individual participants, but that the model then becomes somewhat intractable mathematically. If it does, then the usefulness of the entire model becomes questionable.